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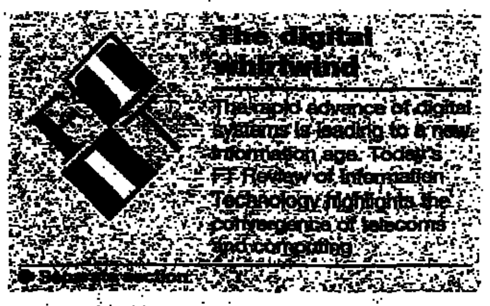
World Business Newspaper http://www.FT.com WEDNESDAY MARCH 5 1997



Fears for US inflation intensify

Figures suggest that growth may be accelerating

By Gerard Baker in Washington and Simon Kuper in London

Fears of a resurgence of inflation in the US intensified yesterday with the publication of figures suggesting the strong pace of economic growth may be accelerating.

A sharp rise in the index of leading indicators and a surge in new home sales in January prompted buying of the US dollar in currency markets as international investors interpreted the figures as further pressure on the Federal Reserve to raise interest rates.

The US currency was helped by an insistence by Mr Guntram Palm, a council member of the Bundesbank, Germany's central bank, that European economic and monetary union remained on course to begin in 1999.

By noon, in New York trading, the dollar had risen to another three-year high against the D-Mark of DM1.7138. Stock and bond prices were falling in late trading. Shortly before the close the Dow Jones Industrial Average was down 30 points at around 6,890.

Sterling soared against the D-Mark. Fuelled by the strong dollar, the pound touched a 53-month peak against the German currency to close 2.1 pfennigs higher in London at DM2.764.

The pound has risen 16 per cent against a trade-weighted basket of currencies since August. Foreign exchange strategists said its rally had been driven by the strong UK economy and by relatively high UK interest rates. Mr Avinash Persaud, currency strategist at J. P. Morgan in London, warned that sterling would stay strong as long as the dollar remained strong.

The Conference Board, a private-sector US research group, reported that its index of leading indicators rose by 0.3 per cent in January, the fastest rate of increase for eight months. The main factors behind the increase were robust growth in factory orders for consumer goods, declines in unemployment insurance claims and strong financial markets.

The Commerce Department said new home sales rose by 8.6 per cent in January, the highest in 11 years. The increase may partly be due to the exceptionally warm weather and a new statistical method the department uses. But home sales were on a rising trend in the second half of last year and the latest figures suggest that pattern is continuing.

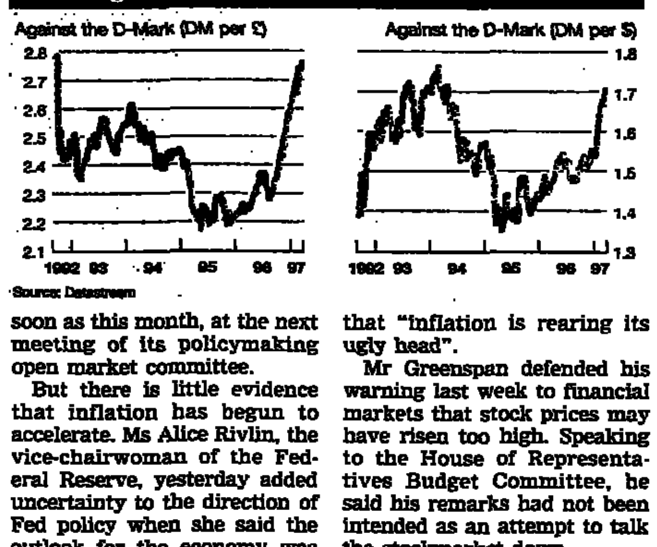
The figures followed reports that have indicated the economy is carrying over into the first half of 1997 its strong tempo of the end of last year.

The latest evidence came a week after Mr Alan Greenspan, the chairman of the Federal Reserve, warned that the US central bank was ready to raise interest rates to pre-empt any rise in inflationary pressures. Since then stock prices have fallen by 2 per cent as investors have become nervous that the Fed will raise short-term rates perhaps as soon as this month, at the next meeting of its policymaking open market committee.

But there is little evidence that inflation has begun to accelerate. Ms Alice Rivlin, the vice-chairwoman of the Federal Reserve, yesterday added uncertainty to the direction of Fed policy when she said the outlook for the economy was "remarkably favourable". Ms Rivlin said she saw no sign that "inflation is rearing its ugly head".

Mr Greenspan defended his warning last week to financial markets that stock prices may have risen too high. Speaking to the House of Representatives Budget Committee, he said his remarks had not been intended as an attempt to talk the stockmarket down.

Currencies, Page 25



Source: Datastream

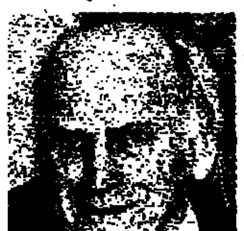
Paris calls in Renault chiefs over job cuts

French industry minister Franck Borotra yesterday summoned Renault for new talks on its controversial European restructuring plans, following confirmation that the loss-making carmaker expects to cut more than 2,700 jobs in France this year. The state owns 47 per cent of the company. Page 14

Chinese face smoking curbs: Less than a week after the state funeral of inveterate smoker Deng Xiaoping, the Chinese government banned smoking on all public transport from May 1. China's estimated 350m smokers, who consume 30 per cent of the world's cigarettes, will face fines of up to Yn50 ($6). Page 14

Asylum rejected: Hopes that Cuban President Fidel Castro's offer of a haven for the Peruvian hostage-takers would lead to freedom for the 72 captives in the Japanese ambassador's residence in Lima were dashed by guerrilla leader Nestor Cerpa. He insisted he was not interested in exile. Page 5

Violinist given Germany's top honour Germany bestowed its Great Order of Merit on



Sir Yehudi Menuhin, left, at a ceremony tinged with clashing memories of German cultural heritage and the Holocaust. The 80-year-old violinist, a US and British citizen who was knighted by the Queen in 1993, said the award was "a symbol of the mutual love and trust that began when I first played Bach at the age of 6" but he puzzled over how a nation that produced such culture could produce those who killed six million Jews.

S Korea gets new PM: Koh Kun, a popular former mayor of Seoul, was appointed South Korea's new prime minister as President Kim Young-sam sought to regain support after the recent Hanbo loan scandal. Mr Koh is the sixth to serve in the mainly symbolic post since Mr Kim became president in 1993. Page 4

Concern over Albania: Western governments discussed naming a senior figure to mediate in Albania's mounting crisis as authorities there sought to impose order under a state of emergency. Armed gangs patrolled Himara on the Adriatic and masked men were looting in the Saranda region. Page 14

Televisa torch is passed: Emilio Azcárraga Milmo, chairman and president of Televisa, the largest media conglomerate in the Spanish-speaking world, announced his retirement due to ill health and named his 29-year-old son to take over the $3.9bn Mexican company. Page 15

Daimler Benz, the German industrial group, expects 1996 profits of at least DM2bn ($1.17bn) on sales of about DM107bn, both well above market forecasts. The statement was the clearest signal yet that the group is recovering well after record losses of DM5.7bn in 1995. Page 15

Peacemaker fined: Former Middle East peace broker Terje Roed-Larsen was ordered to pay a $7,200 fine in a tax-evasion case that forced him to quit a Norwegian cabinet post after a month in office. No criminal charges were filed against the former UN envoy who was a key figure in the secret "Oslo channel" talks between Israel and the PLO.

Sand castles: British youngsters flocked to beaches in Cornwall, south west England, where thousands of Lego building bricks were washed up after being lost overboard from a ship damaged in a storm in the English Channel. Two containers of the toy bricks had been on the way to the US from Denmark.

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STOCK MARKET INDICES

New York: lunchtime		
Dow Jones Ind Av	6,933.15	(+14.23)
NASDAQ Composite	1,322.45	(+11.27)
Europe and Far East		
CAC40	2,651.69	(+51.43)
DAX	3,329.66	(+56.80)
FTSE 100	4,357.5	(+58.6)
Nikkei	18,384.78	(+135.65)

US LUNCHTIME RATES

Federal Funds	5¼%
3-mth Treas Bills: Yld	5.22%
Long Bond	97⅞
Yield	6.83%

OTHER RATES

UK: 3-mo Interbank	6⅜%	(6⅜%)
UK: 10 yr Gilt	102⅛	(101⅞)
France: 10 yr OAT	108.37	(108.30)
Germany: 10 yr Bund	103.47	(103.90)
Japan: 10 yr JGB	104.2356	(104.198)

NORTH SEA OIL (Argus)

Brent Dated	$19.29	(19.03)

GOLD

New York: Comex	
(Mar) $350.1	(363.4)
London:	
close $360.00	(362.75)

DOLLAR

New York: lunchtime	
£ 1.6157	
DM 1.71405	
FFr 5.778	
SFr 1.4875	
Y 122.05	
London:	
£ 1.6172	(1.6195)
DM 1.7094	(1.6934)
FFr 5.7653	(5.7192)
SFr 1.4833	(1.4757)
Y 121.825	(120.825)
Tokyo close:	Y 121.6

STERLING

DM 2.7644	(2.7425)

Sweden's alcohol monopoly ruled illegal

By Greg McIvor in Stockholm and Emma Tucker in Brussels

Sweden's state retail alcohol monopoly was dealt a potentially fatal blow yesterday by a preliminary European Court ruling on the free flow of goods.

The ruling, which said the monopoly contravened European Union regulations, could have implications for other Scandinavian countries that operate state monopolies on alcohol retailing.

The advocate-general – whose opinion is usually followed by the court – rejected the Swedish government's argument that the monopoly was justified on social and health grounds because of the country's traditionally high levels of liquor consumption.

In a 41-page initial opinion, the advocate-general said the monopoly for the Systembolaget chain to sell wine, spirits and strong beer was a disproportionate public health measure. He said EU competition rules allowed Sweden to adopt other methods, such as licensing systems, to protect the public from alcohol abuse.

The ruling, if followed by the full court, will have far-reaching implications not just for Sweden but for Finland, also an EU member. Finland last night emphasised it would not automatically follow yesterday's ruling.

It is unclear whether a final judgment would have implications for Norway and Iceland, which also operate state liquor monopolies. They are not EU member states but do belong to the European Free Trade Association and comply with EU rules on cross-border trade.

The news stunned the Swedish government, which agreed with the European Commission when it joined the EU in 1995 to scrap its wholesale alcohol monopoly in return for being allowed to retain the retail restrictions.

Alcohol is an important source of revenue for the government, accounting for more than 6 per cent of the total tax bill. In 1995, Systembolaget had turnover of SKr20bn ($2.67bn) and made pre-tax profits of SKr58m.

Mr Erik Asbrink, Sweden's finance minister, said the ruling underlined that Swedish alcohol policy needed to be reviewed. But Ms Margot Wallström, social affairs minister, said: "In no circumstances could there be talk of

Continued on Page 14
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Death of Yahaya Ahmad sends down prices on Kuala Lumpur exchange

Malay businessman Yahaya Ahmad who died in a helicopter crash with his wife and their pilot in the central state of Pahang. Mr Yahaya was one of an elite group promoting an ambitious policy of industrialisation Reuter

Malaysian car tycoon killed in helicopter crash

By James Kynge in Kuala Lumpur

Mr Yahaya Ahmad, who controlled Malaysia's automobile industry, has died in a helicopter crash.

Mr Yahaya was one of an elite group of Malay businessmen hand-picked by Dr Mahathir Mohamad, the prime minister, to promote an ambitious policy of industrialisation.

His death late on Monday leaves the authorities with the delicate task of reorganising his business empire without further unsettling the stockmarket.

Share prices fell on the Kuala Lumpur stock exchange after the news broke that Mr Yahaya, his wife and their pilot died in the central state of Pahang when their helicopter burst into flames.

At the close, the Kuala Lumpur Composite Index was down 13.21 points, or 1.05 per cent, at 1,247.23. Malaysian shares traded in Singapore's international exchange were also depressed, brokers said. Mr Yahaya's business empire included nine listed companies, with a combined market capitalisation of more than M$10bn ($4bn) or about 4 per cent of the leading index.

Trading in all nine companies was suspended yesterday and is likely to remain so until the question of what happens to Mr Yahaya's personal holdings is resolved.

The tycoon owned 72 per cent of Diversified Resources Berhad (DRB), a holding company.

Through DRB, he held 32 per cent of Hicom Holdings, an industrial conglomerate which in turn holds 26 per cent of Proton, the manufacturer of Malaysia's national car.

Mr Yahaya also controlled Kedah Cement, a lucrative building materials company; Edaran Otomobil Nasional, the country's leading automobile distributor; and Uniphoenix, a diversified property company. He also controlled Gadek Capital, Gadek Malaysia, Eastern Pacific Industrial Corporation and Golden Pharos, diversified companies with a range of business interests.

Mr Yahaya took a personal stake of 16.3 per cent in the UK sports carmaker, Lotus, which Proton bought in October last year.

It is unclear what is to become of his personal corporate interests.

In Malaysia, leading entrepreneurs in strategic industries such as automobiles are often selected by the government and granted discounts to allow them to buy their controlling shareholdings.

The leading candidate to assume Mr Yahaya's duties as the chief executive of Hicom and Proton is Mr Saleh Sulong, the managing director of the DRB-Hicom Group, company executives said.

Mr Anwar Ibrahim, the deputy prime minister, said police were investigating the helicopter crash but he added that sabotage was considered unlikely.

Obituary, Page 4

Computer date 'bomb' worse than feared say experts

By Alan Cane and David Wighton

The extent of the damage that could result from the so-called "millennium bomb", the inability of some computer software to distinguish between the 20th and 21st centuries, has been greatly underestimated, experts warn.

They say the danger is not limited, as had been thought, to older computer systems but it extends to modern client-server systems, personal computers and, most worrying, the embedded processors that control devices, including traffic lights, power stations and offshore oil installations. Oil tankers, warplanes and cars all depend critically on multiple embedded processors.

The millennium bomb will affect companies worldwide. But countries are approaching the question with different levels of concern. Mr Robin Guenier, head of a UK government body established to tackle the problem, points out in a letter to the Financial Times today that fewer than 10 per cent of companies are taking corrective action.

Mainland Europe is lagging. Mr Ian Taylor, the UK technology minister, said yesterday that he would raise the issue for the third time at a meeting of the European Union telecoms council on Thursday. The European Commission, however, had no intention of mounting a campaign to raise awareness.

The problem arises from the high price of computer memory in the 1960s and 1970s. Programmers stored year dates as two digits rather than as four to save space. Such software will be unable to distinguish between dates in 1900 and 2000. Some computer systems will stop working. Others will generate errors while others will fail in unpredictable ways.

Mr Guenier's letter says the problem is "present in countless logic chips embedded in a multitude of devices from security and telephone systems to processing and power generation plant."

Sir Michael Angus, chairman of UK retailer Boots the Chemist, said the date problem could hit process control systems, security systems and

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EU group rebuffs Turkish entry bid

By Lionel Barber in Brussels

Chancellor Helmut Kohl and five fellow centre-right leaders in Europe yesterday delivered an unequivocal rebuff to Turkey's renewed bid to join the European Union.

At a summit in Brussels, heads of government from Belgium, Germany, Ireland, Italy, Luxembourg and Spain agreed to intensify efforts to create a special relationship with Turkey built around the existing customs union.

However, they agreed unanimously that Turkey's human rights record, its size, and, implicitly, the Islamic strain in its society, made it impossible for the EU to contemplate admitting the country into a Union which is preparing to expand to central and eastern Europe around the year 2002.

Mr Wilfred Martens, president of the centre-right European People's party, said that it was "not acceptable" for Turkey to become a member of the EU. "We are creating a European Union. This is a European project."

The Brussels summit considered Turkey's renewed attempt to join the Union after an intensive lobbying campaign from the Ankara government, including a diplomatic démarche in Paris last Monday intended to secure French support for membership.

Several participants at the EPP summit said there was considerable frustration at Turkish pressure tactics in recent weeks which included threats to block Nato enlargement to the former Communist countries of central and eastern Europe unless the EU offered Turkey the "perspective" of membership.

There is also concern about the unwillingness of Turkish and Greek Cypriots to make concessions which would help foster efforts to negotiate a settlement on the issue of the divided island.

Thanks to Greek pressure, the EU has agreed to open accession negotiations with Cyprus six months after the end of the Maastricht treaty review conference. In a gesture to Ankara, Germany led efforts last week to include the Turkish community in northern Cyprus in the accession talks.

With the support of the US, Turkey has been lobbying to secure a similar long-term pledge for EU membership as the Czech Republic, Hungary, Poland, Slovenia, the Baltic states, Romania and Bulgaria. Turkey first sought to become a member more than 30 years ago.

Mrs Tansu Çiller, Turkey's deputy prime minister, led lobbying efforts behind the scenes before the EPP meeting in Brussels. But, as one participant said: "What today shows is that the EU refuses to be blackmailed."

Mr Wim van Welzen, president of the European Union of Christian Democrats, said the EU had cultural, humanitarian and Christian values different to Turkey's.

Turks find way across religious divide

John Barham hears few echoes of storm in a Turkish tea shop

In the dusty streets of Sincan the political intrigue wracking Turkey's capital barely an hour away seems part of another world. At the Yildiz tea shop men chat, chew sunflower seeds and sip hot, sweet tea in the bright spring sunlight.

Sincan, a dormitory town outside Ankara, sprang to national fame after its Islamist mayor decided to celebrate "Jerusalem Day", a day of protest against Israel declared by Iran, and invited the Iranian ambassador to make a speech. The venue was decked with portraits of leaders of the extremist Palestinian movements Islamic Jihad and Hamas and Lebanon's pro-Iranian Hizbollah.

Four days later, the rigidly secularist army sent a column of 35 tanks and armoured personnel carriers clattering through Sincan in a show of strength. The hapless mayor was removed from office and arrested. These incidents aggravated the already considerable mutual suspicion between the Islamist-led coalition government, the generals and Turkey's big secularist majority.

Tension came to a head last Friday when the military-dominated National Security Council handed Mr Necmettin Erbakan, the prime minister, an ultimatum to desist from anti-secularist "behaviour" or face "sanctions".

After toppling three governments since 1960, few Turks had many illusions about what the soldiers meant. The army regards itself as the guardian of the secularist heritage of Kemal Ataturk, the military leader who founded modern Turkey 74 years ago.

To the men of Sincan's Yildiz tea house, however, the battle lines between Islamists and secularists are less clear cut.

One old man, twirling his abundant moustache, said: "Both sides are wrong. The mayor is very good: he has worked hard. But he made a mistake and he is paying for it now. The army had to give a warning. We do not want extremists. This is a Moslem country, but everything has to be in balance."

He complained that by law his daughter could not work in the public sector because she wore the Islamic headscarf and that graduates from religious schools could not pursue military careers. "Why not? Are they not sons of this country?"

Mehmet, a fervent young supporter of Refah and of strict observance of Islamic law, said: "Secularism means that political Islam cannot be in power and allows people to live any way they want."

But nobody agreed with him. The regulars of the Yildiz tea house consider themselves to be both good Moslems and good secularists. The older man cut in angrily, saying: "Look, I am a Moslem. I go to the mosque. But if there was not secularism, you could not talk like this. We are all Moslems, but we need secularism [to defend] our freedom."

And, like all Turks, the people of Sincan revere the army. A recent national opinion poll confirmed once again the forces as the country's most trusted institution with 90 per cent support, in spite of allegations of corruption against some senior generals. Yet, the tea house's consensus was clear: everyone wants to preserve democracy and the right to lead their lives as they wish.

Although Turkey's secularist majority (pollsters put Islamist support at only 20-40 per cent of the population) strongly supported the generals' warning to Mr Erbakan, it is not without misgivings. One columnist described the military's ultimatum as a "soft coup". Women's groups marching in Ankara and Istanbul against the Islamists also chanted slogans in favour of democracy and against another military coup.

Mr Erbakan is doggedly resisting military demands to sign a declaration pledging unwavering support for the secularist state and promising to crack down on the growth of Islamic organisations – technically illegal, but long tolerated. "The government is responsible to parliament," he said yesterday. "The government will continue as long as it has parliament's confidence."

The longer the confrontation lasts, the less likely the economy can stabilise. Inflation last month rose more quickly than expected to 78 per cent and government finances remain weak. More inflation and unemployment can only worsen political tension.

Commentators detect a hardening of opinion inside Refah. After eight months in power, the party has fulfilled none of its Islamist agenda. On the contrary, its MPs had to defend Mrs Tansu Çiller, leader of the True Path party, the coalition's secularist partner, against accusations of corruption. They have even backed defence agreements with Israel and backtracked on pledges to sever ties with the European Union.

In the opinion of one Istanbul financier: "Either Erbakan will sign the army's declaration and then ignore it, which will bring another crisis with the military. Or he can refuse, which means the government will end. Whatever happens, it just means more political confusion and less action on the economy."

Political uncertainty and higher than expected inflation sparked heavy selling on Turkey's financial markets yesterday, with the Istanbul stock exchange index falling 12 per cent at one stage, writes John Barham in Ankara. Traders were reacting to a reported warning by Mrs Tansu Çiller, deputy prime minister, that she might pull her centre-right True Path party out of the eight-month-old coalition government. Mrs Çiller was quoted as saying: "If needed we will withdraw from the government. If Refah continues with this tension, the alternative will be an election."

Demand recovered later in the day, however, after the government-owned Anatolia news agency quoted her as saying she would not resign. Share prices closed 5.2 per cent down, after falling 5.6 per cent on Monday. The Turkish lira lost 1.1 per cent against the US dollar.

Analysts said markets were also rattled by the government's announcement of higher than expected inflation. The retail price index rose 5.7 per cent in February, bringing year-on-year inflation to 78 per cent.

Milk ruled out as conduit for BSE infection

By Caroline Southey in Brussels

EU scientists have ruled that cow's milk is safe to drink, concluding in a report released yesterday that there is no risk of mad cow disease being transmitted to consumers through milk or milk products.

The safety of milk has been questioned since the release of an interim study in the UK which suggested that bovine spongiform encephalopathy (BSE) could be transmitted from mother to calf. The report raised fears about possible BSE infection through milk and led to some German states blocking the imports of British milk and milk products.

Scientists have not yet ruled conclusively on how maternal transmission takes place. However, the study points out that research on 300 home-bred UK herds with one or more confirmed cases of BSE showed that there was "no significant evidence for maternal transmission". The study also rules out milk as a possible conduit for the disease.

"There is no evidence that milk transmits BSE and the committee considers any risk from milk to be negligible," concluded the report, drawn up by EU's standing veterinary committee, which is made up of representatives from member states.

The committee said it had "no hesitation" in recommending that milk and milk products from healthy cattle could be drunk "by any species". It said, however, that a "low level of infection in colostrum cannot be excluded" but that the risk from colostrum (liquid produced by the mother in the first few days following birth) was "negligible".

The committee recommended that the ban on milk from cows suspected of having BSE be maintained and that the ban be extended to colostrum from these cattle.

The report was based on scientific research by scientists from the UK, France, Germany, Italy and the Netherlands. The studies were conducted on herds where there had been incidents of BSE as well as in laboratory tests.

The report points out that there is sheep to sheep transmission of scrapie – considered to be the most likely source of BSE. But it argues that there is no evidence that colostrum or milk carry the infection and that experiments point to the cow's placenta as the most likely source of transmission.

The veterinary committee's ruling comes as the European Commission prepares to overhaul farm and consumer policy-making in response to criticism it failed to act decisively over BSE. The first change will take place when Mr Franz Fischler, agricultural commissioner, hands over control of the scientific food and health committees, including the veterinary committee, to Ms Emma Bonino, commissioner for consumer affairs.

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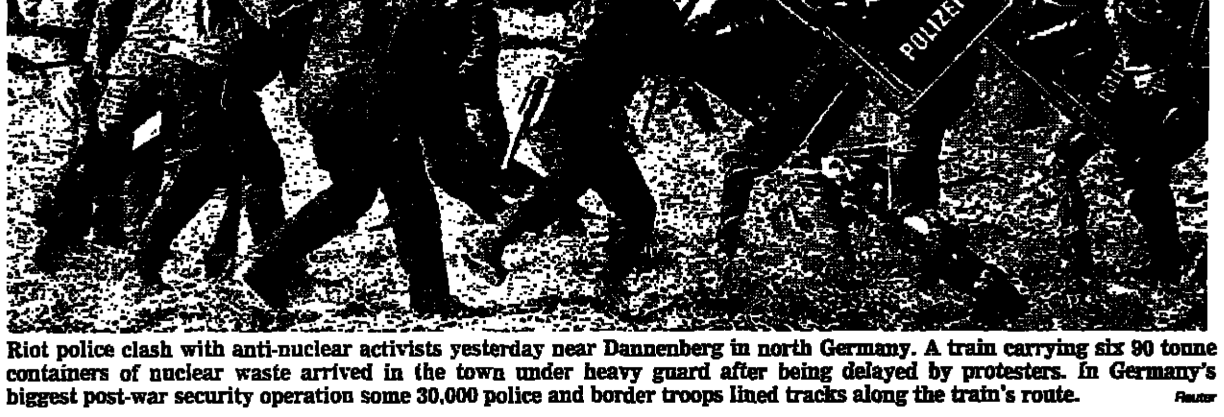


Riot police clash with anti-nuclear activists yesterday near Dannenberg in north Germany. A train carrying six 90 tonne containers of nuclear waste arrived in the town under heavy guard after being delayed by protesters. In Germany's biggest post-war security operation some 30,000 police and border troops lined tracks along the train's route. *Reuter*

Banks dig for hidden treasure in Ukraine's 'Gazprom bonds'

By Matthew Kaminski in Kiev

The $1.4bn worth of Ukrainian "Gazprom bonds", a hidden treasure in east European debt currently sold on a murky and illiquid market, may soon be available in the open.

Russian and western banks are pressing for a more transparent market for the dollar-denominated sovereign debt, issued in 1995 to cover Ukraine's massive arrears to Gazprom, the Russian gas giant.

The Gazprom bonds are being quietly touted as a fresher and longer duration investment vehicle compared with domestic treasury bills that have attracted considerable foreign capital inflows in recent months. Western investors accounted for up to 540m hryvnia ($300m), or a third, of the treasury bills sold last year.

Bankers and government officials say the bonds are already sold at considerable discount in Moscow and are more lucrative than similar Russian ministry of finance external debt bonds.

The creation of a liquid securities market for the energy debt would also set a precedent for other former Soviet countries which have built up arrears for energy imports.

National Reserve Bank (NRB), a Moscow-based bank partly owned by Gazprom which today owns $870m of the Ukrainian bonds and acts as custodian, last year retained J P Morgan to issue a global depository receipt that would make the bonds directly available on European markets.

Mr Vyacheslav Yutkin, the NRB representative in Ukraine, said a GDR issue could be completed by April, adding that this would alleviate the custodian risk that has deterred western investors from purchasing the bonds directly from NRB.

The rescheduled Gazprom debt, roughly half the total Ukraine owes the Russian company, was split into 40 issues that mature quarterly between 1997 and 2007. The interest on each bond was 8.5 per cent annually starting in 1995.

Gazprom deposited the bonds with NRB, which subsequently acquired a large portion. Oneximbank, an influential Moscow commercial bank, reportedly owns up to $400m. Gazprom disposed of the bonds in 1995.

"Most days, financial institutions in Moscow are selling and buying them," said Mr Mikhail Goncharuk, Ukraine's deputy finance minister. But, added a western banker, "they are not actively traded".

The potential yields explain the sizeable interest. Mr Nima Tayebi, an analyst for Moscow's Renaissance Capital, said the Ukrainian bonds could sell for up to 500 basis points over the Russian external debt, where the nine-year bond carries an annualised yield of 11.9 per cent.

A western investment banker said the spread against the Russian debt would drop to 150-200 basis points with a better custodian arrangement.

The position of the Ukrainian government, whose approval would be needed for either a GDR or a new custodian, has not been clarified. Some officials fear undermining the country's eurobond issue, of about $250m, expected later this year. But bankers have urged the government that these bonds could help Ukraine build up a credit history beforehand.

Solana warns against moves to stop Nato expansion

By Bruce Clark and Arkady Ostrovsky in London and Ralph Atkins in Bonn

Any move to stop the enlargement of the Atlantic alliance would threaten the security of Europe, Mr Javier Solana, the secretary general of Nato, said in London yesterday.

In an attempt to win over the many sceptics about Nato enlargement in Britain's foreign policy establishment, he urged them to consider the dangers of any halt in the drive to embrace several new member states by spring 1999.

"Historically, when the security of central and eastern Europe has been left unclear, the resulting uncertainty has exerted a strong and potentially destabilising influence on the whole of Europe," Mr Solana said.

"Do we want to deal with the consequences of leaving these partners outside?" he asked. Turning away the former Communist states of central Europe would rob them of one their best hopes of achieving peace and prosperity.

"Not to enlarge is the 'do nothing, achieve nothing' option," he told the Royal Institute of International Affairs. However, Mr Solana received a cautiously optimistic message from British officials about the prospects for serious negotiations with Russia about its future relations with Nato – one of the main problems in the enlargement process.

British officials said that the re-entry into public life of President Boris Yeltsin had strengthened the negotiating hand of Mr Yevgeny Primakov, the Russian foreign minister.

"There has been a change in Russia's tone over the last couple of weeks," said one UK official, who added that even if Mr Yeltsin did not "applaud" Nato's expansion, he might be persuaded to acquiesce under certain conditions.

Mr Volker Rühe, the German defence minister, also expressed optimism yesterday that a deal would be reached at the Madrid summit in July, saying the conditions today "had never been so favourable". He urged Russia to adopt a "new rhetoric" towards Nato and to stop thinking in terms of "spheres of influence and power balances".

His speech in Stuttgart to the American chamber of commerce in Germany, came ahead of a meeting last night in Bonn with Mr William Cohen, the new US defence secretary.

Mr Solana has embarked on a hectic round of diplomacy before the Madrid summit, in the hope of achieving breakthroughs on all Nato's main problems by the time heads of government meet.

Apart from relations with Russia, these problems include the creation of a more robust European pillar within the alliance, the integration of French forces into Nato's military wing, and the avoidance of conflict between Greece and Turkey.

Mr Solana has been heavily involved in recent days with Greek-Turkish issues, widely seen as the wild card that could wreck the creation of a new European security order.

In Athens last week, Mr Solana won an agreement in principle to renew last summer's suspension of naval exercises in the Aegean.

A proposal for Nato's southern command in Naples to monitor the movement of aircraft over the Aegean more closely was received warmly in Athens – but Greece reacted coolly to the idea of Nato observers being posted on its ships.

Additional reporting by Kerin Hope in Athens

EUROPEAN NEWS DIGEST

Yeltsin carpets law officer

Mr Boris Yeltsin, Russia's president, lashed out at another senior government official yesterday, accusing the prosecutor general of "unsatisfactory" work in tackling organised crime.

Mr Yeltsin publicly dressed down Mr Yuri Skuratov, Russia's top law officer, telling him it was "impermissible" that he had failed to solve the killings of a prominent priest and two popular journalists. "Amid the general crime statistics, which I well know, are hidden some terrible murders which make the whole society seethe," Mr Yeltsin said.

The interior ministry announced yesterday it was pursuing 3,600 cases against organised crime groups. Last year, it seized 5,000 weapons and almost 54 tonnes of drugs.

Mr Yeltsin's recent tirades against a series of ministers seem designed to emphasise the president's return to active political life. Tomorrow Mr Yeltsin is scheduled to give a state of the nation address in which he is expected to reshuffle several ministers. *John Thornhill, Moscow*

Bosnia poll may be delayed

Bosnia's hotly contested municipal elections, originally proposed for July, will probably be postponed until September, western officials said yesterday.

The local polls were originally supposed to be held in September 1996, along with general elections, but were postponed because of widespread fraud over refugee registration. The municipal vote was moved to November last year and then July of this year.

Western countries funding the election have pushed for a third postponement of local polls to allow more time to organise refugee registration and international monitoring of the voting. Elections are now expected to take place on September 13 and 14.

The next round of nationwide elections is set for 1998, a year after the scheduled municipal balloting in September. Bosnia's local polls are viewed as the country's last chance for reunification. The vote is supposed to enable refugees to elect authorities in their former towns and reverse the effects of wartime ethnic expulsions. *Reuter, Sarajevo*

Ban on bullfights lifted

A deal yesterday between bull breeders, matadors and local authorities in the Valencia region finally allowed Spain's formal corrida season to get underway in the town of Castellón where a week-long schedule of bullfights has been suspended since Sunday.

The authorities persuaded CAPT, the association representing top breeders, star matadors and the impresarios of major bullrings, to lift a ban on bullfights in the Valencia region after agreeing to discuss the association's complaints over tough rules imposed by Madrid's interior ministry to prevent the practice of shaving bulls' horns.

The agreement applies only to the Valencia region where the Castellón fiesta, which marks the start of the bullfight calendar in big towns, is followed by a two-week corrida season in the city of Valencia beginning on Sunday.

Fights in major bullrings elsewhere in Spain that have CAPT's breeders and matadors under contract are still subject to the ban. *Tom Burns, Madrid*

Injunction for finance head

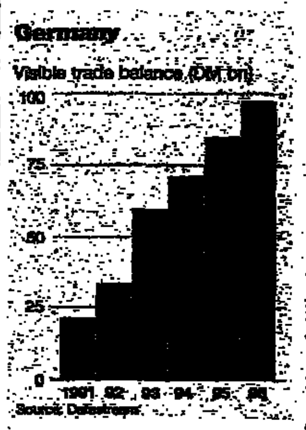
Amsterdam's bourse authorities yesterday sought an injunction against Mr Gerrit Zalm, the Dutch finance minister, in an attempt to prevent the publication of a government report into the 1993 collapse of Nusse Brink, a securities trading house.

Numerous transactions were discovered to have been unreported, and the affair provoked suspicions of money laundering.

The stock and options trading associations, joint owners of the newly merged Amsterdam Exchanges (AEX), said they were anxious to maintain the confidential nature of information given to and by market supervisors. This was to ensure that AEX was able to fulfil requirements governing the pooling of information on such cases with other European bourses and their regulators. If details were made public it would run the risk of being excluded from this accord, with damaging effects for the quality of supervision and the position of the Netherlands as a financial centre, AEX added. *Gordon Cramb, Amsterdam*

ECONOMIC WATCH

German exports soar



Germany's merchandise exports surplus last year reached the highest level since unification in 1990, according to figures from the federal statistics office. The surplus of exports over imports was DM97.6bn ($58bn), compared with DM85.3bn in 1995. The rise underlined Germany's reliance on exports to power economic recovery – helped by recent depreciation of the D-Mark – against a backdrop of relatively weak domestic demand. The country's export surplus contracted after unification as heavy demand from newly-incorporated states boosted imports. But exports of goods rose by 4.6 per cent in 1996 to DM784.3bn compared with a 3.4 per cent increase in imports to DM686.7bn. The current account showed a deficit of DM26.6bn last year, compared with DM29.9bn in 1995. *Ralph Atkins, Bonn*

- Belgian unemployment fell to 13.4 per cent in February from 13.6 per cent in January and 14.3 per cent a year earlier.
- The European Union trade surplus reached Ecu14.4bn ($16.5bn) in the third quarter of last year, according to Eurostat, bringing the surplus to Ecu24.8bn in the first nine months.

INTERVIEW • Alasdair Barron talks to Irving Wladawsky-Berger of IBM

Vision for a connected world

Electronic commerce holds universal promise, says IBM's 'Mr Internet'

The little man with the big name is the technical equivalent of "speak softly, but carry a big stick". Irving Wladawsky-Berger, general manager of IBM's Internet division, is reckoned to be "seriously smart" in the computer industry. He has been at the heart of IBM's technology development for nearly 30 years. In early 1995, he was leading IBM's parallel supercomputing work when it was given full 'division' status in the world's largest computer company.

Later that year, while overseeing a big internal merger, he was surprised to be asked by IBM's chief executive, Mr Louis Gerstner, to establish the company's new Internet division with the role of "articulating IBM's Internet strategy and making sure it gets implemented".

According to Mr Wladawsky-Berger, "our task is to deliver applications to companies to enable them to leverage their business in a connected world". He is equally clear on what IBM does *not* want to do: "We will stick to the role of facilitating business – for example, the Financial Times knows about publishing, the universities know about education – we are not interested in going into other areas."

But how will businesses benefit in practice? Recent surveys show that although most companies believe the Internet will play a rapidly developing role, it is still early days. For example, the first purchase using the new security technology standard, the Secure Encryption Transaction (SET) protocol, took place in Denmark only a few weeks ago.

"Most businesses can leverage their information resources now and use them more productively," says Mr Wladawsky-Berger. "They can get closer to their suppliers and work more effectively with them. They can sell direct to their customers – we are only just beginning to exploit the potential. It will take time, but electronic commerce has universal promise."

According to colleagues, Mr Wladawsky-Berger's real success has been in shifting the focus of the world's largest computer company on to intranet/Internet business opportunities – and a year earlier than Microsoft's much-publicised sea change in finding new enthusiasm for the Internet.

With software revenues of $13bn in 1996, IBM is also the world's biggest software company, leading Microsoft at $8.7bn.

"We are not trying to squeeze more out of the PC.

Irving Wladawski-Berger: an Internet visionary

Our vision is all about connecting the world together – this is a huge revolution in world connectivity."

At the core of this vision is 'network-centric computing', where companies use systems of powerful servers to support a network of intelligent terminals. This is not a return of old-style mainframe systems serving dumb terminals; the network terminals will probably be more powerful than most of today's PCs.

Users will receive the latest software and company information delivered to their terminals on start-up, removing the need to constantly buy software updates, thus opening the way for more effectiveness in the office. As part of this, users need to be able to load their finished work back on to the system, a feature called 'replication'. Last year, IBM bought Lotus, whose Notes software provides this facility.

But as soon as companies start communicating outside their own systems, the need for internationally-accepted standards also becomes paramount. This is where IBM's adoption of Sun Microsystems' Java programming language comes in. But Java is much more than just a programming language: it is a binary standard which is key to business communications in the future. Java developers can create programmes that run on any computer.

But while heavy investment in Java and Lotus is one reason why financial analysts continue to view IBM with some caution, those purchases put in place key features needed to achieve connectivity.

This connectivity will benefit many areas of industry, not just electronic commerce. For example, the development of the world's most sophisticated unmanned reconnaissance aircraft, 'DarkStar', shows how new network applications are changing business. A complex design project

Fast work: networked computing enabled the world's most sophisticated unmanned aircraft, 'DarkStar' to be designed by 50 people in teams located 3,000 miles apart, in only 11 months

with wing and fuselage teams 3,000 miles apart, DarkStar was expected to take *years* – and hundreds of people – to complete. In fact, it took 50 people just 11 months to complete the aircraft design, using a networked IBM RISC System/6000.

The launch of 'Alphaworks', a combined "online laboratory and web site", seems to reflect the Internet's open working philosophy. Alphaworks offers the "benefits of early access to new and developing technologies" to anyone who wants to download the software and experiment with it.

IBM benefits increasingly from user-feedback and reduced time to market for its products. "It used to be the case that in computer technology the key factor was what the *laboratory* could build. Now, there is so much technology around, the real question is what can people absorb? So there needs to be a much more emphasis on solving people's business problems. A lot more work needs to be done in the market place, which is what Alphaworks achieves."

In the new IBM, the customer is again king. On the day we caught up with him, he had flown to Paris to meet corporate clients, travelling by company jet at 6am from Nice, in the south of France. Then he flew on to the UK for more client meetings, followed by staff briefings and an FT interview over dinner.

While reflecting on the future, what did he think would be the impact of increasing worldwide connectivity?

"I believe we are in the really early stages, just like the era of early automobiles, with only a few roads."

Will connectivity be a vehicle for democracy? "History shows that restricting freedom doesn't work. Countries soon learn that."

When asked about the impact of increasing connectivity in the lives of working people, Mr Wladawski-Berger – who heads a visionary division of 500 people in a company that filed more patents than any other business last year – answers reassuringly: "We simply don't know what will happen . . . but we're confident we can take each change in our stride."

A man of influence in the world of computing

In his rise to prominence in the fast-changing world of information and communications technology, Mr Irving Wladawski-Burger of IBM's Internet division has achieved the American dream: he was born in Havana in 1945, the son of a Russian father and Polish mother who met in Cuba while on their way to the US. He spoke Yiddish at home and was fluent in Spanish before starting to learn English at the age of 10. The family emigrated to the US when he was 15.

Moving through the educational system to gain a doctorate from the University of Chicago in physics, he joined IBM's research centre in 1970.

"My strengths have always been in research and development," he says.

Now in demand as an advisor to a wide variety of organisations, his recent assignments have included acting as a technology consultant to the US government, and to Fermilab (the world's largest particle accelerator), and an educational involvement in the independent 'New School' graduate college in New York.

Pressure of work – 30 per cent of Mr Wladawski-Burger's time is spent in travel – means that such activities are now strictly limited, but they still include active liaison with a wide range of contacts in government and industry. A large part of his time is spent in IBM client-support, working on anything from developing large-scale health networks and music and video publishing systems to international networks.

High level consultations on Singapore's proposed 'world communications hub', as well as talking to the prime minister of Malaysia in recent weeks "is just part of the job", he says.

INTERVIEW • Paul Taylor talks to Paul Allaire of Xerox

Confident of a more colourful future

Software is taking over as an important part of the company's product offering

As chairman and chief executive of Xerox, Paul Allaire has spearheaded The Document Company's efforts to re-invent itself as a digital powerhouse in the information age.

Allaire, who joined Xerox in 1966 has overseen a radical restructuring of the business which has involved the loss of more than 15,000 jobs in the past two years. "The restructuring, in terms of downsizing, is behind us," says the Xerox chief executive. "We still have a bit to do, but the real magnitude is behind us."

Nevertheless, he admits to caution in answering questions about restructuring. "In this very fast-moving industry, restructuring is almost a continual activity, changing the kind of resources you have and the kind of talents you need to move forward."

Like other high tech companies, Xerox faces the challenge of keeping up with accelerating product life cycles. "You have to be skilled in understanding market trends and capable of very rapidly developing the products that enable you to remain competitive as you move forwards," says Allaire.

"We continue to invest heavily in our technology base," he says, "We have very robust set of technologies which are supportive of our direction as a company." But the real test, he says, is turning those technologies into products that meet customer requirements faster than those of competitors are able to do.

Academic

Allaire acknowledges that historically the Xerox Parc research community viewed themselves in "a fairly academic manner . . . now we have been able to change the culture and atmosphere in the company to one where researchers are very much part of the strategic direction of the company. We now have our research scientists going to the product and marketing people and saying, "our customers need this technology, you have got to bring it to market quicker".

"Product cycles are speeding up in all of our businesses. Everything has to be quicker and more nimble. In the digital world the things you can do via software implementation enable you to change very, very quickly."

In the past Xerox has been known mostly for its hardware – particularly the photocopiers which gave the company its name. But Allaire insists this is changing. "Software hasn't been a huge part of our revenue stream, but in the last 10 years it has become a much bigger part of our product offerings. Today, more than 30 per cent of our total revenues come from digital products and all of these have significant software content."

"A lot of people don't realise that more than half our engineers are software engineers. In a digital world what you are essentially taking is a document – paper or electronic – and then doing a considerable amount of work on it so you can transmit it in a cost-effective way without losing any of the information you have captured. If we add colour to the equation you get another dimension which is exponential in terms of the increased complexity and the amount of software you need."

Xerox is betting that corporate colour printing is about to take off. "We think colour is one of the big market opportunities in the office. If you really look at what is happening today, personal printers and PC monitors are all in colour and people work in colour. If you look at the high end of the market, it is in colour, but in the office we are still primarily black and white."

He believes that if colour is to become an attractive option, three conditions must be satisfied: "You need quality, you need the economics and you need ease of use, and all three have been a barrier in the past," he says. "Today, quality is not a barrier at all, but we have to come down the cost curve and we have to ensure the ease of use is there."

But he does not think the bulk of office documents will be in colour, rather that there will be colour in the bulk of documents. "Our intention is to provide what we would describe as colour-enabled machines with no-excuse black and white.

Continued on facing page

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Information Technology

Wednesday March 5 1997

The convergence of telecommunications, computing and broadcasting industries is opening the way for seamless access to multimedia information and entertainment, any time, any place, anywhere, writes **Paul Taylor**

Whirlwind of change in the digital era

Mark Thomas

he rapid advance of digital systems, ised on the 'ones and zeros' of nary computer language, is veeping away the remaining fferences between data processing id telephony, and leading to the iwn of a new information age, itomised by the explosive growth of ie Internet and internal corporate tranets.

'We are on the cusp of a volution," says Sanjaya Addanki, neral manager of International isiness Machine's European network mputing business. "In the past, chnology was used to support the ck office, it is now forcing new isiness strategies, driven by network mputing."

Digital technology has made it ssible to convert text, sound, aphics and moving images into ded digital messages which can be mbined, stored, manipulated and insmitted quickly, efficiently, and in ge volumes over wired and wireless tworks without loss of quality.

is a result, electronic commerce and s multimedia revolution are driving e computing and ecommunications worlds into er-closer contact, forcing two lustries with traditionally different stories and cultures into npetition and co-operation.

The coming era of digital personal nmunications is an era of iverging technologies, converging xducts, converging media and iverging industries," says Mr khard Pfeiffer, president and chief ecutive of Compaq Computer, the rld's leading personal computer mufacturer.

More and more, the computer, adcast, cable, telephone, satellite, d media entertainment industries l find themselves part of a much ger market-place. These industries ist learn to compete in broad rkets, driven by consumer needs her than be protected from npetition in their traditional rket segments."

The relentless advance of silicon semiconductor technology, the emergence of a personal computing standard and the shift to distributed computing and inter-networking have provided the raw power for this "information revolution".

"The tremendous progress in base technologies, such as microprocessors, memory chips, bandwidth and magnetic/optical storage, enables unlimited network computing," says Herbert Kircher managing director of IBM's German operations. "These technologies will continue their dramatic increase in density, performance and price/performance ratio for the next decade at the same pace as in the last decade.

"Most key parameters of these technologies will have improved by a factor of 10–100 by the year 2007," predicts Kircher. "These improvements have created and will further develop phenomena such as network computing, multimedia, Internet and intranet, which are the platform for tremendous business opportunities."

Mr Andy Grove, Intel's chief executive describes the Internet as the "universal backbone" of networked computing. The Internet represents a "strategic inflection point" for a variety of industries – particularly those in the services sector, he believes.

According to Intel estimates, about 90m PCs will be sold this year, compared with 100m television sets. Within 18 months, the US chipmaker expects PC sales to overtake sales of TVs as the home PC becomes a consumer appliance. However, Mr Grove worries that if PC sales – and therefore sales of the Intel microprocessors which mostly power them – are to continue to grow, the PC will need to "win the battle for consumer's eyeballs".

There is some evidence that the PC is beginning to win just such a "battle". One recent study found that between 30 and 40 per cent of children in the US have reduced their television viewing time in order to surf the Internet.

"Young adults in the US, between the ages of 18 and 35, who previously spent an average of four hours a night watching television, are now devoting one of those hours to the Internet. Even advertisers are starting to switch their advertising dollars to the Internet," according to Price Waterhouse's 1997 Technology Forecast published last month.

It seems today's digital age consumers, especially the 'wired' generation reared on e-mail, MTV, video game machines, and of course the Internet, crave interaction, connection and unlimited choice. "I believe the PC is the digital tool that can integrate and make sense of all the diverse information streams that consumers will be pulling into their intelligent networked homes of the future," says Compaq's Mr Pfeiffer.

Changes in information delivery mechanisms are also expected to lead to changes in content in order to exploit fully the potential of new delivery channels, such as the Internet.

"Media will move away from being for the masses towards being for the individual," says Dresdner Kleinwort Benson in study published in January. "This will manifest itself as increasingly niche and tailored services."

The growth of the Internet and portable computing devices has also encouraged the vision of access to information, "any time, any place, anywhere".

"The Internet has gone a long way toward illustrating the demand for that access, and providing us with an example of how our future communications will work," say the authors of the Price Waterhouse study. "Now, satellite networks, wired and wireless telephone systems, and cable and data networks are being developed to ensure that information can be accessed quickly and seamlessly."

This process is likely to be accelerated in part because the communications industry has begun to change from a traditional, proprietary technology to a switched packet environment in which data flows over global, interconnected networks.

"Telecommunications technologies are beginning to merge with computer communications technologies," says Price Waterhouse. "This convergence means that the reliability of telephone technologies will now become available to computer communications users, with switching and routeing functions seamlessly integrated."

In the US and Europe, this process will be accelerated by deregulation which will allow telephone companies to deliver everything from telephone and mobile services to Internet access and video-on-demand. But one of the key challenges will be to finance the tremendous investment required to update the copper wiring into homes – the so-called 'last mile'.

Fibre-optic cables, once thought as the solution to providing increased bandwidth to the home, have proved too costly. At least in the short term, a more gradual upgrade approach is likely, using technologies such as cable modems and ADSL (asymmetrical digital subscriber line) which allow much higher volumes of compressed video and data signals to run over traditional telephone lines for short distances.

Ovum, the technology research and consulting company, believes the number of cable modem users will increase from 4.4m in the year 2000 to more than 19m by 2005.

"The convergence of three traditionally separate industries: broadcasting, telecommunications and computing, has meant that a range of organisations is now looking to define its place in multimedia information, not least the cable companies. The cable industry has woken up after a long history of simply distributing broadcast entertainment," says John Davidson, a senior consultant at Ovum and co-author of the report.

"The main driver is the Internet. The explosive growth of the Internet has created an unprecedented awareness and demand for data networking among both business and home users. Optimised for carrying voice traffic, however, the world's telecoms networks are struggling with the bottlenecks of information flow, particularly at the local loop, the last length of copper wire to a customer's home or business. Cable modems have the potential to turn traditional bandwidth bottlenecks upside down."

Traditional broadcasting media such as television and radio are also undergoing a radical transformation. As Bob Pepper, chief of the Federal Communications Commission's office of plans and policy, notes, "we are only in the early stages of television's evolution". Ahead, for example, lies TV's transformation from analogue to digital, a move, which will greatly improve picture and sound quality, and dramatically increase viewers' choice.

For example, Digital satellite will mean ten times the number of channels or typically 140 instead of the 14 analogue channels, Dab (Digital Audio Broadcasts) have already begun in the UK and DTT (Digital Terrestrial Television) is due to be launched in Britain next year, making possible new services, such as pay-per-view and near video-on-demand.

Elsewhere, the adoption of digital smartcard technology – plastic cards containing a microprocessor – could transform the delivery of financial and other services in the retail and government sectors and help organisations manage information and customer relationships.

Continued on page 18

CORPORATE COMPUTERS • By Michael Dempsey

Why thin clients are in vogue

Advocates of new, 'thin clients' – stripped-down computers, designed to work across a network – claim they cut the cost of computing

There was a time when corporations had to be persuaded that personal computers were worth buying. Predictions made in 1980 that every office in the world would one day feature a desktop computer were met with considerable scepticism, most famously at IBM.

But the PC computer industry fought its way past this obstacle – today, desktop PCs are a considerable part of corporate budgets.

US researchers at the Stamford-based Gartner Group estimate that the annual cost of supporting *one* user of Windows 95 software on a company PC, is $10,000. Corporate customers have thus become restive at the price of embracing a PC on every desktop.

At the same time, IT suppliers have discovered a new way of hitting back at the market domination of the world's largest software company, Microsoft.

The vogue IT phrase is 'thin client': the idea represented by this jargon is that expensive PCs loaded with facilities to host complex software can be replaced by simpler, 'thinner' pieces of hardware communicating over the Internet and 'leaning' on powerful hubs, called servers.

> Fujitsu refers to the emerging struggle as a 'tribal war'

Thin clients, so the argument runs, are the only way to rid a company of the costs associated with the combination of PCs and industry standard software that its detractors now refer to as 'the thick client', or more graphically 'thick computing'.

Sun and Oracle have weighed in on the side of the thin client. Japan's Fujitsu, with its own product-line of PCs, has referred to the emerging struggle as a tribal war. But Fujitsu points out that the 'thick client' has a healthy future, with 'well-behaved' features emerging via centralised management.

Fujitsu is one member of the industry Desktop Management Interface group, installing characteristics to allow PCs to be reconfigured remotely. 'Smart' hard disks can report a technical problem to the system administrator automatically.

The thin client, says Jonathan Powell, UK business PC product manager at Fujitsu, "is good for people who don't need local processing power. The downside is your servers need more and more power to keep many users 'up' – and a problem with the server can disable a lot of staff".

New Java application

Eurodollar, the £100m UK car rental group, spends £4m on IT a year. In the last 12 months it has bought computer servers, desktop and portable PCs worth £500,000 from Digital. But Eurodollar has also engineered an arrangement with one of its largest clients, BT, to warm the heart of the thin client lobby.

BT staff are a highly mobile community. They often need a vehicle at short notice. But with 60,000 desktop PCs spread about the BT world, Eurodollar wanted a means of distributing account information online that did not involve mailing 60,000 PC diskettes.

It used Java, a platform-independent software development language, tuned for the Internet world and an important tool of the thin computing movement. Emerging from the workstation builder Sun, Java allowed Eurodollar to create its own customised software environment in which it can deal with BT staff.

Java contains small pre-written programs, known by the engaging title of 'applets' that permit the rapid, 'just-in-time' rewriting of software. Companies no longer need to install huge software programs whenever a new function is needed. Analysts at Bloor Research Group predict that Java is at the epicentre of a seismic shift in the global $650bn computer industry, posing a threat to Microsoft and Intel, the two industry leaders at the heart of the explosion in personal computing.

In the BT application, an employee calls up Eurodollar over the Internet, types in his relevant identity and account details, and pulls up a page with the last-recorded use of Eurodollar, holding information such as vehicle type. He can key-in changes to his requirements and arrange for an invoice to be printed off from the Internet address.

By employing Java, Eurodollar says it can alter the application quickly and easily and that changes will be instantly flashed to its entire BT client base.

"It's horses for courses," says Russell Allen, technical support manager at Eurodollar. An accountant needs to work on an industry standard spreadsheet, so he uses a PC.

With 17,000 vehicles and 2,000 staff spread across 148 locations Eurodollar has room for both approaches to corporate computing. And the terminals seen on the customer side of its premises are simple 'windows' on to the rest of its conventional network of PCs and servers. These systems existed before thin clients were conjured up.

Investment protection

At the $208m US software house, SCO, developers think they have invented a means of protecting existing investment in PCs while promoting Internet communications and, ultimately, the 'thin' side of the business.

Tarantella, a software feature built into SCO's current release of the Unix operating environment, is a buffer between the Internet and the customer's normal computer. SCO claims Tarantella permits the user to carry on employing any conventional PC application while also exploiting the communications potential of the Internet.

Staying up-to-date

With 5,000 dealerships worldwide, US auto giant Chrysler faces a challenge in keeping car manuals up to date. PCs at each of these sites are running SCO's Unix, incorporating Tarantella in a $3m deal. This does not look like 'thin clients' – the workstations could be taken as a paradigm of costly hardware spread about the globe. But SCO's Unix offering allows Chrysler to hold one central copy of technical data and constantly update works manuals across the globe.

This is 'thin thinking' allied to familiar local systems. The cheaper, slimmed down corporate computer is not reliant on Sun and its allies.

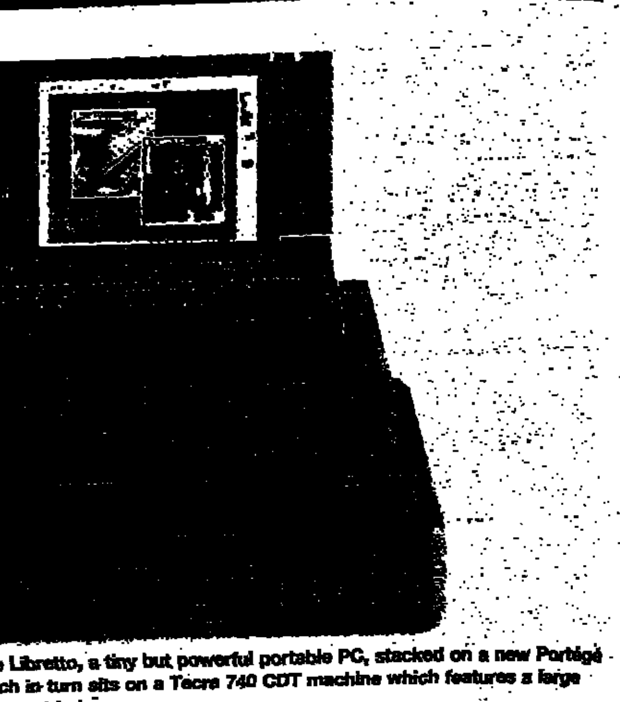
Signs of a wider trend

ARM (Advanced Risc Machines) is a £17m UK company with backing from Apple Computers and Japan's Daiwa Bank. Its 162 staff sell the intellectual rights to chip designs that its chief executive, Robin Saxby, says "can run a PC for a tenth of the price and power consumption of an equivalent chip from Intel".

ARM's chip technology powers Oracle's Network Computer, a hardware harbinger of the thin computing movement. But while Saxby thinks the slim-line network computer (NC), with its lack of a hard disk is an economic advance, he sees ARM chips as part of a wider trend towards affordable technology.

"I'm not religious about the NC. My interest is to get our chips into as many systems as possible. Last year, some four or five million ARM chips were shipped, many of them for mobile phones," he says.

Fujitsu's Mr Powell thinks "there's enough potential business out there to keep every IT supplier happy. Some people will adopt NCs, but others like to have their own power". He adds a comment that could have been made any time in the last decade: "The cost of PC ownership is still going down."



Three portables from Toshiba: the Libretto, a tiny but powerful portable PC, stacked on a new Portégé 660 CDT, a sub-A4 notebook, which in turn sits on a Tecra 740 CDT machine which features a large 13.3 ins colour TFT screen – see report below

PORTABLE PCs • By Paul Taylor

$80bn market by the year 2000

One in every four PCs sold today is a portable machine

Notebook personal computers and hand-held devices have firmly established themselves as mainstream business tools, helping individuals to stay in touch while on the move, improving personal productivity and enabling enabling companies and other organisations boost customer service, improve productivity and provide additional workforce flexibility.

In particular, the development of the portable PC as a communications device, has meant that with just a few mouse-clicks, notebook PC users can have high speed remote access to e-mail, the Internet, or a corporate intranet – even while on the move.

Used in conjunction with fixed or wireless communications links and credit-card sized data cards or high speed fax modems while travelling, the portable PC has proved an extremely useful device.

Indeed, the latest high-end notebook machines come with fast Pentium 200Mhz MMX microprocessors, high speed integrated CD-Rom drives and large, bright 12 or 13-inch LCD screens.

As a result, a growing number of business organisations view the portable PC as a more flexible alternative to a traditional desktop – a machine which can be hooked into the corporate network via a docking station or network card while in the office, then taken home or on a business trip.

In Europe, in particular, the arrival of digital GSM (Global System for Mobiles) cellular digital networks has made keeping in touch with the office while on the move, much easier over the past five years. Portable PCs equipped with a cellular data card can be plugged into a digital GSM handset to send or receive data.

"Companies are acquiring portables in record numbers, indicating pent-up demand for the flexibility afforded by being mobile," noted a recent study of the European market for portable PCs, prepared by International Data Corporation for Dell Computer, one of the notebook market leaders, with its range of Latitude machines.

Today about one in every four PCs sold is a portable device and the portable PC market, which includes hand-held devices, such as the new Windows CE machines, as well as standard 'A4' notebook machines, remains one of the most dynamic sectors.

Most manufacturers, including Toshiba and Compaq, now have a full range of portables aimed at different segments of the market.

Many, including Siemens Nixdorf, have also introduced highly modular systems which can be configured to suit the user – one of SNI's machines comes with a detachable LCD panel which doubles as a LCD display for use with an overhead projector.

The value of portable PC sales is expected to more than double from $30bn last year to nearly $80bn by the end of the decade, an 18 per cent compound annual growth rate, according to a recent study, *Pen, Palmtop and Notebook Computers*, prepared by Frost Sullivan, the market research firm.

> Sales of portable machines are invading the desktop sector

This demand is driven, at least in part, by the emerging trend for companies to replace desktops with portables which are increasingly sold with docking stations or port replicators, enabling them to easily integrate with corporate networks. For example, Julian Phillips, notebook sales manager for Dell Computer (UK), says that 65 per cent of its new Latitude machines are sold with port replicators making them 'network-ready'.

Dell and a few other notebook manufacturers, have also begun to install Microsoft Windows NT on some machines at the behest of business customers.

"Our factory installation of NT4 enables notebook users instant access to 32-bit computing and network compatibility," says Phillips. Dell's implementation of NTWorkstation provides customers with some additional features such as power management, designed to optimise the operating system for mobile users.

Until relatively recently, portables suffered a number of disadvantages over their desktop counterparts. However, over the past year both the performance gap between desktop machines and their portables counterparts and the price premium paid for portables have narrowed considerably. Two years ago, a portable machine cost on average 2.8 times the price of a comparable desktop, now the premium is down to about 30 per cent.

Meanwhile, the closing 'technology gap' between portables and their desktop counterparts has helped portable PCs manufacturers such as Toshiba, the market leader, make steady inroads into the desktop market.

Mobile PC users no longer have to wait for the latest in PC technology to be adapted for the mobile market – for example, portables using Intel's new MMX chip technology were launched on the same day as their desktop counterparts.

"The technology gap is closing quite quickly," notes Mr Andreas Barth, head of Compaq's European operations.

Illustrating the market's dynamics, Compaq suffered in the first half of last year because it did not have a full range of machines, but that has now been rectified and sales are growing strongly again. "There is a very clear segmentation of the market," say Mr Barth.

Some machines, such as Sharp's recently-launched Widenote machine, which has an extra wide screen – ideal for spreadsheets or two Web pages, side-by-side – even boast features not yet found on desktops. Some manufacturers, including Dell, are now considering whether to build machines with screens bigger than 13 inches – very much the limit within the A4 format.

But for those with limited computing needs and deep pockets, the latest generation of wireless digital personal assistants – devices which combine the features of a digital telephone and a high powered electronic organiser – are proving attractive.

The marriage of hand-held PCs and wireless telephony – in new devices from Nokia, Hewlett Packard and Motorola, as well as add-on enhancements to existing hand-held machines such as the Psion series 3 machines HP 100LX – has helped re-ignite interest in the pocket-sized computing market, following disappointment with first-generation PDAs, such as early Apple Newton, which lacked wireless communications facilities.

Now, for example, the GSM-based Nokia 9,000 enables the user to send and receive e-mail and cruise the World Wide Web, as well as make standard phone calls – all from a single (large) pocket-sized device costing £799.

For those with smaller wallets, the new Windows CE machines which are expected to figure prominently at the annual CeBit show for information and communcications technologies in Hanover (March 13-19), look promising; while US Robotics' Pilot machine has already proved highly successful.

PDAs, growing rapidly from a small base, will continue to be a success in niche markets, "but they will need improvement before they become the mighty industry predicted at their introduction," says Frost & Sullivan.

For the moment, however, notebooks are expected to account for the vast majority of world mobile computing market revenue, boosted by growing business market penetration and emerging consumer sales.

World ICT markets: see report, page 18

MOBILE COMPUTING • By Jola Shillingford

The replication complication

In computer jargon, keeping versions of files synchronised is known as 'replication'. But to the mobile executive, it is just another headache.

The problems of portable computing have not been solved. One of the biggest is how to make sure you have the same version of files on your laptop computer as on your desktop PC. If you do not, you may find you are missing a vital piece of information, or have to re-do work that is already sitting on the office computer.

In computer jargon, keeping versions of files synchronised is known as replication. But to the mobile executive, it is just another headache. Even faxing from a portable has its limitations.

High-flying corporate financier Bruce McInroy says: "Before I go on a business trip, I copy more files than I'm likely to need on to my portable. If I need another file, I get someone in the office to e-mail it to me. From my hotel room in Paris or South Africa, I use cc: Mail Remote to pick up the message.

"I make whatever changes I need to to the spreadsheet or report. Then, when I'm back at Deutsche Morgan Grenfell, I can update the file on my desktop PC by slotting a credit-card sized Ethernet (network) card into the portable. This has a small cable which can be plugged into the office local-area network (Lan). There's usually someone in the office who can e-mail me; at worst, I'd have to wait 12 hours."

However, there can be problems keeping the portable and PC versions of cc: Mail synchronised. The company directory is very large, and although directory updates are sent to mobile executives, they have to be ignored or would quickly fill up the portable's memory.

Another issue is how to keep paper files up-to-date. "When I send a fax from a portable in Sri Lanka, no copies are being made for the office files," says McInroy. "One has to be quite disciplined about make copies when returning to the office."

Communicating on the move also requires lots of bulky gadgets. McInroy has takes two zip-up bags with him when he travels containing TeleAdapt adaptors for phone sockets in different countries. Deutsche Morgan Grenfell is, however, experimenting with giving some executives access to GSM data services.

This would give them the ability to send and receive data via a mobile phone connected to a Global System for Mobile (GSM) digital network. But McInroy warns that if you replace your mobile phone, you may have to buy a new GSM data card too, as the cards often work only with a specific phone.

> Remote access to main office systems raises concern over security

Lawyer Johnathan Yorke, who works at City of London law firm of Richards Butler, has the problem of keeping files up to date, not only on portable and desktop PCs, but also on a personal organiser. Well-known among friends for his love of gadgets, he seems to have found the answer. He uses extra software sold by Psion to keep his diary, address book and 'things to do' lists on desktop PC and personal organiser synchronised. Getting hold of files on his desktop PC when he is out of the office is also no problem. He can access his office PC via an option in Microsoft Exchange that allows remote access.

To download a file from his desktop, he must call in from a recognised phone number and be able to provide the necessary passwords. The system came into its own when Yorke was on a skiing and parapenting weekend in Chamonix, but needed to complete some work. He was able to transfer a file from Windows Explorer (in Windows95) into the Briefcase utility, work on it on his portable, then transfer it back to Briefcase.

When a new version of a file is uploaded, Briefcase tells the user that there are two versions of a file, and asks whether it should synchronise them, replacing the old version with the new version. The only drawback of portable computing for Yorke is that he has to allow more time for going through

Continued on facing page

Why the Internet is good news for Xerox

From previous page:

Now, if you do black and white on a colour machine, generally you don't get as good a black and it is more expensive.

"So, what we would like to do is have products which, if they are being used for black and white, are just as easy to use, just as cost-effective and just as high quality as a black and white unit."

Allaire also believes that the explosion of interest in the Internet will ultimately benefit his company. "In many ways we view the Internet as validating the document paradigm," he says.

Allaire: he views the Internet as an opportunity to develop the concept of printing-on-demand

"Basically, what the Internet is about is structuring information in documents for people to utilise, and that is what we have been talking about when we define a document.

"So, via the Internet, the amount of documents that are available to the public, and to business, increases exponentially. Once you have that information you can dramatically increase the number of documents you use. For Xerox this is a real opportunity.

"Getting documents on to the Net is something we think we are quite good at: we can go from paper to electronic form and do that in a manner where we can intelligently capture the documents, so it's not just an image – you can process it, you can do what you want with it."

He also views the Internet as an opportunity to develop the concept of printing-on-demand. "I think the big opportunity here is to do what we have been taking about for some time – to move from a situation where you print and distribute, to one where you distribute and print."

Xerox is also actively using Internet technologies internally. "We have a very interesting intranet that we utilise, for example, for internal communications and we have about 400,000 internal 'hits' per month. We can monitor what kind of things people are looking at. The highest hit rate we have is competitive information, the second is personnel information."

Whenever the Xerox chief executive makes a speech, it is made available on the Xerox intranet the same day – "we put our earnings announcements and our product announcements on the intranet so that they are instantly available. It really democratises communication," he says.

More e-mail

"The other side is that you get a lot more e-mail, which is a response to the liberation of the Net. People will not take the time to send a formal letter, they will not even give you a hand-written note, but the fact that they can do it with the push of a button means they send a lot more mail."

Xerox has not yet figured out a way automatically to sift and prioritise Mr Allaire's e-mail, but the company is interested in all areas of document management and the use of intelligence applied to the document. "One of the issues with information overload is just knowing *what* is out there and whether it is relevant or not," he says.

"How do you do that? Well, you have to have good retrieval mechanism – intelligent retrieval mechanisms – and then our concept of abstraction, where you can get a fairly good view of the contents of a multi-page document in a paragraph or half a page. This is a very important technology. This is one everyone can relate to.

"Newspapers work well because they are easy to scan. Nobody reads a whole newspaper – people scan a newspaper and read articles that catch their eyes," he says.

Some of the document handling-techniques, such as abstraction and summarisation, which Xerox is working on have their routes in the artificial intelligence research of the 1980s – "a lot of the concepts developed back then were uneconomic because of the processing power required. You had to have a supercomputer to abstract a memo," jokes Allaire.

"It was interesting research, but no one was actually going to buy the hardware – it was a hell of a lot cheaper to hire ten readers."

Now, as in other areas, he notes that the lower cost of electronics and improved techniques make such things economically possible.

CORPORATE COMPUTING ● By John Kavanagh

Impassioned arguments over rival operating systems

The battle lines between Microsoft's Windows NT and the Unix multi-user operating system are still being defined, say analysts

Patrick Brazel has little doubt about the future of Microsoft's Windows NT operating system: he is staking his company's future on it. Mr Brazel is president of SunGard Capital Markets, the world leader in derivatives, money markets and risk management systems.

"We committed to Windows NT for new systems, three years ago," he says. "Today, every would-be competitor is jumping on this bandwagon as more and more financial institutions switch from Unix to Windows. Almost all our existing Unix users are now actively considering moving to NT. Bill Gates has won the battle."

Investment bank BZW is the latest company to endorse this last statement with a similar commitment: it has just ordered 5,700 workstations and 80 central computers (servers) from Compaq, all running the Microsoft product.

But the battle is far from won, according to those with an equal enthusiasm for Unix. Indeed, market studies suggest that the battle lines are still being defined.

The battle lines are fluid because Microsoft is building up from the pre-eminent position of its familiar Windows system on people's PCs to attack the high ground held by Unix as the system running the departmental and corporate computers serving those PCs. Each new release of Windows NT brings advances to enable it to gain ground and supporters.

User surveys reflect this gradual advance. A study for Tandem Computers shows that more than 90 per cent of IT managers believe NT's market share will match that of Unix within five years, including 41 per cent who think it will catch up in three years.

Research group IDC is less certain. It gives Unix 41 per cent of the total operating system market in Europe and Windows NT seven per cent. It sees NT reaching 24 per cent by 2000.

These and other figures are impressive for a product launched by one supplier just four years ago to compete against the combined might of the IT industry promoting an operating system which started emerging as a standard in the early 1980s.

However, the surveys also reflect current industry misgivings about NT. The Tandem study, for example, says that although 80 per cent of IT directors believe NT beats Unix for departmental and branch systems, almost 90 per cent see Unix as better as a central mainframe replacement. In addition, two-thirds say Unix wins in the key corporate computing areas of reliability, robustness and expanding the number of users and the workload.

These issues are raised consistently by the Unix camp. "NT has healthy growth, but this is at the low end of the market, working out from the desk-top," says Mr Julian Lomberg, product manager for Sun Microsystems' Solaris version of Unix.

"Microsoft has a fairly compelling argument here, with the Windows familiarity and ease of use. Ultimately it will make an assault on enterprise computing, but there Microsoft is talking to IT directors, whose future depends on keeping critical systems running securely, with data integrity and high performance under heavy loads."

Mr Malcolm Etchells, director of SCO, which manages the Unixware standard adopted by some of the biggest suppliers, agrees. "So far, corporate users have used NT as a print server or to run a marketing department system," he says. "Microsoft is now looking up-market by talking about running on two clustered computers, but Unix already runs on four or more clustered machines."

However, Mr Peter Blackmore, head of enterprise computing for Europe at computer supplier Compaq, says the power of the latest Intel processors on which NT runs is knocking out the performance argument.

"NT's scaleability has come a long way in 18 months, and mid-range computer performance is now available," he says. "The price per transaction processed is 30-50 per cent less than on a typical Unix system. It's no longer just a departmental system. We're now supporting hundreds of users on systems which are often business-critical. Current growth is absolutely extraordinary."

Peter Blackmore of Compaq: 'The growth of business is extraordinary'

Malcolm Etchels, of SCO, says: 'Microsoft is now looking upmarket'

This is from a company which, less than a year ago, signed up as one of the first to back Unixware. Today Mr Blackmore says, "We're an open systems company, so if you want Unix on our hardware we will ensure it works well – but you can't get away from the NT momentum. We're working very closely with Microsoft and software companies on NT, which is growing the fastest."

Mr Blackmore raises another issue which counts both for and against NT – "NT offers one standard operating system which software suppliers and users can work with," he says. "Unix is not well-placed to withstand NT on the marketing front, because Unix is not a single standard."

He points to different versions from SCO, IBM, Hewlett-Packard and standards body The Open Group – a point acknowledged by the Open Group itself.

"We can't deny that there have been different flavours, but these are coming together now under our Unix 95 brand, which is rapidly gaining support," says manager Mr Simon Lofthouse – although he concedes that SCO's Unixware is still a separate Unix flavour. Indeed, three-quarters of those responding to the Tandem survey said competing standards were damaging the position of Unix.

Conversely, Mr Lofthouse says the single Microsoft standard is damaging to users: "It would be bad if NT became dominant, because there would be no incentive for the supplier to improve it. Unix has many big companies behind it, which produces far more innovation and development."

IBM, which is also a rival with its OS/2, says Microsoft has to attack the corporate computing market to maintain a growth rate that will keep investors and share-owning staff happy. Microsoft last month gave early warning of slower growth in its 1997-98 financial year, which does not even start until July.

Despite the impassioned arguments on both sides, and the fact that he represents the Unix camp, Simon Lofthouse at The Open Group stays pragmatic about the future. "The argument is not really about whether NT or Unix will be the winner," he says. "Unix won't disappear, and NT won't take over. The real issue is how dominant these two might become over the entire market."

Why thin clients in vogue: see report, page 4

ENTERPRISE SERVERS • by Philip Manchester

Why no-one wanted to use the 'M' word

While the mainframe remains a strong candidate for the role of enterprise server, a growing number of flexible alternatives are emerging

In the 1990s, companies – in IT jargon – have become 'enterprises' and mainframe computers have become 'enterprise servers'. The idea of 'the enterprise' was coined at the beginning of the 1990s to differentiate between personal computing, based on PC networks, and corporate computing. And, because 'enterprises' need some sort of central computer resource, the name enterprise server came about because no-one wanted to use the 'M' word.

Technologically, there is little difference between a mainframe and an enterprise server:

☐ *Both* take the processing load off the desktop and place it on a central computer at the electronic equivalent of corporate headquarters.

☐ *Both* let companies take control of their data resources and conduct their business in a secure, robust environment.

☐ *Both* offer controlled access to corporate information resources.

There are some differences, however. Traditional mainframe computers looked after all the processing needed to support an application, from control of the desktop interface to managing the corporate database. Enterprise servers do not get involved in presenting information on the desktop – a role now filled by the PC.

The mainframe's heritage puts it in a good position to fill the emerging role of enterprise server – a message that IBM in particular has pushed hard – and backed up with changes to its software.

"There are two schools of thought: you can either buy new software and hardware technologies to replace the mainframe – or you can take the existing range of software and hardware and expand it to meet the new demand. IBM supports the latter route," explains Mr Tony Occleshaw, software marketing manager at IBM UK.

IBM has brought established mainframe software technologies – the DB2 relational database manager and CICS transaction processing package – to the new market.

Cost factor

In addition to moving the software to other computer platforms, IBM has also added features to connect its mainframe software to the Internet/World Wide Web.

"Many users are looking at this in terms of time-to-market and cost. Some of our customers have made their DB2 data available on the Web in less than a week, at a minimal cost. The software is free – you can download it from the IBM's page on the Web," adds Mr Occleshaw.

While the mainframe remains a strong candidate for the role of enterprise server, a growing number of alternatives promise greater choice and flexibility.

The hardware technologies – either in the form of a reduced instruction set computer (Risc) or Intel's PC technology - boost performance by innovative design. Symmetrical multiple processor (SMP) systems, such as Non-Uniform Memory Access (Numa) systems, link many processors together to push the power up. Massively Parallel Processor (MPP) systems again use multiple processors to power applications where separate parts of a job are processed simultaneously.

Dr John Mashey, director of system technology at Silicon Graphics (SGI), notes that the way processors are connected to each other – and to other system components such as disk storage – is also a key factor in performance of enterprise servers.

"Processor performance, memory capacities and disk capacities are increasing at a rate of four times every three years. But the method of connecting them together is lagging behind. We are concentrating our efforts on improving the bandwidth to match other improvements," he says.

Similarly, Digital Equipment (DEC) sees the move to 64-bit chips as a way to meet the increased demand for processing power. Its Alpha chip was the industry's first commercial 64-bit system and is already delivering direct business benefits according to DEC:

"The 64-bit processor lets you use very large memory sizes which speeds up both data warehousing and transaction processing applications," explains Mr David Cousins, Alpha server marketing manager for DEC.

But an enterprise server is more than hardware – it also requires an operating system platform. Unix (now owned by Satan Cruz Operation, SCO), and Microsoft's Windows/NT are the main contenders. Traditional PC builders such as Compaq, Sequent and Pyramid Technology have opted to take the Windows/NT route. Unix is backed by the established manufacturers such as Sun Microsystems and Hewlett Packard.

"There have been technological changes that have made the choice broader and new applications that have demanded higher performance and more function," says Mr John Pattenden, server product marketing manager at Sun Microsystems.


John Pattenden of Sun Microsystems UK: 'New server systems offer greater performances than the mainframe'

"Traditionally, Unix has not been able to offer things such as manageability and transaction throughput to compare with the mainframe. But now Unix is stable and manufacturers like ourselves are pushing the envelope, customers can use it for enterprise server systems." Mr Pattenden continues. "Our new range of server systems – the Ultra Enterprise 1000 – offers performance greater than mainframes, with many features associated with mainframe computing: virtual machines, 'hot-swap' upgrades and scalability."

Rival manufacturer Hewlett Packard (HP) also backs Unix – along with other options.

"In terms of delivering high-end performance, it was IBM's MVS mainframe until a couple of years ago. But now there are more options with Unix and NT, based on multiple processor systems. The enterprise server space is very broad and we see both Unix and NT as contenders at different levels," says Mr Nigel Ball, HP's director of marketing.

Choices

Fujitsu subsidiary, ICL, takes a similar approach, combining Unix and Windows/NT with its own VME system 'under the same hood'.

"Customers don't want to move applications between different operating systems – although they accept that they will have a multiplatform environment. Our approach is to bring everything together – and get the systems inter-operate," notes Mr Fred Lawton, strategic marketing manager for ICL's high performance systems.

The message from suppliers is that enterprise servers can offer a range of alternatives, both in terms of hardware designs and software 'platforms'. If suppliers fulfil their promises, customers will be able to choose any or all of the options on offer – without committing themselves to a single supplier.

Rival operating systems: see report on Page 3

SUPPLIER'S VIEWPOINT • Rod Newing interviews Casey Powell of Sequent

An alternative to the mainframe

'Powerful servers, built from many small Intel processors, provide a cheaper and more powerful alternative to single-processor mainframe computers'

The current trend in computing has been decided by changes in the structure of organisations. As Mr Casey Powell, chairman and chief executive of Sequent Computer Systems sees it, "in an agricultural economy, landowners made the decisions; then, in an industrial economy, factory owners made decisions. But this decision-making was shared by around 15 per cent of employees, who were high-status managers, under the control of the owner.

"When we moved to a service-based economy, companies 'noticed' their customers and every employee became involved in providing customer-service."

Today's managers, he says, "are no longer determining employee behaviour – now it's the *customers*, so managers have become facilitators". When every individual is empowered to make decisions that affect the customer, "you need to give all individuals the information they need to ensure that they are all moving in the same direction".

Here, Mr Powell points out a problem: "The data centre is still connected to the 15 per cent of managers who used to make the decisions. You now need to reach the other 85 per cent of employees who need access to information, which requires a new architecture.

"Organisations have to make that major architectural change at the same time that their budgets are cut, so they must exploit new technology."

Mr Powell *(http: //www.sequent.com)* believes that powerful servers built from many small Intel processors provide a cheaper and more powerful alternative to single processor mainframe computers, *(see box, right)*.

"At Sequent, we position ourselves as the best alternative to the mainframe," says Mr Casey. "We can help organisations extend the reach of their systems from 15 per cent of their employees to *all* of them."

According to Sequent's research, up to \$178bn worth of installed mainframes exist and need to be 'rearchitected'. Twelve per cent of those organisations have already decided to move away from the mainframe to a client/server environment, which is worth \$20bn. "If I only get ten per cent of that, I will double the size of my company," says Mr Powell.

The mainframe is too expensive, he maintains. "Our machines are ten times cheaper and ten times faster than a mainframe, but functionally equivalent. The secret is lots of little microprocessors stuck together. We can put 252 Pentium Pro processors into a machine and connect eight machines in a cluster, giving us 2,016 processors. No mainframe could compete."

Examples

The UK's Inland Revenue has two clusters of three Sequent machines, each with six Intel processors, that give 50,000 users access to 4.5 terabytes of data. The Employment Service has two clusters of three machines, each with twelve 100MHz Intel Pentium processors, supporting 40,000 users in 1,200 offices.

Obviously, the migration path from mainframe to client/server has not always been easy. "Customers don't know their problems, so there is no packaged solution," says Mr Powell. "You need an interactive diagnostic process to identify and understand the problem. Hardware only solves 30 per cent of the problem – you need services to diagnose, plan and implement the solution."

Sequent is finding a huge requirement for multi-processor servers from the both the Internet, which requires high power to cope with multimedia, transaction processing and a high number of concurrent visitors, and decision support applications which enable complex queries to be performed against large data warehouses. "You can process your transactions with a modest computer, but it won't answer all your questions," says Mr Powell. "Queries such as 'what if?' and 'how to?' need real computing power."

Microsoft is working with a number of companies to develop clustering technology for its Windows NT Server operating system.

Called Wolfpack, this project is intended to offer multiprocessor power by linking together commodity-priced servers.

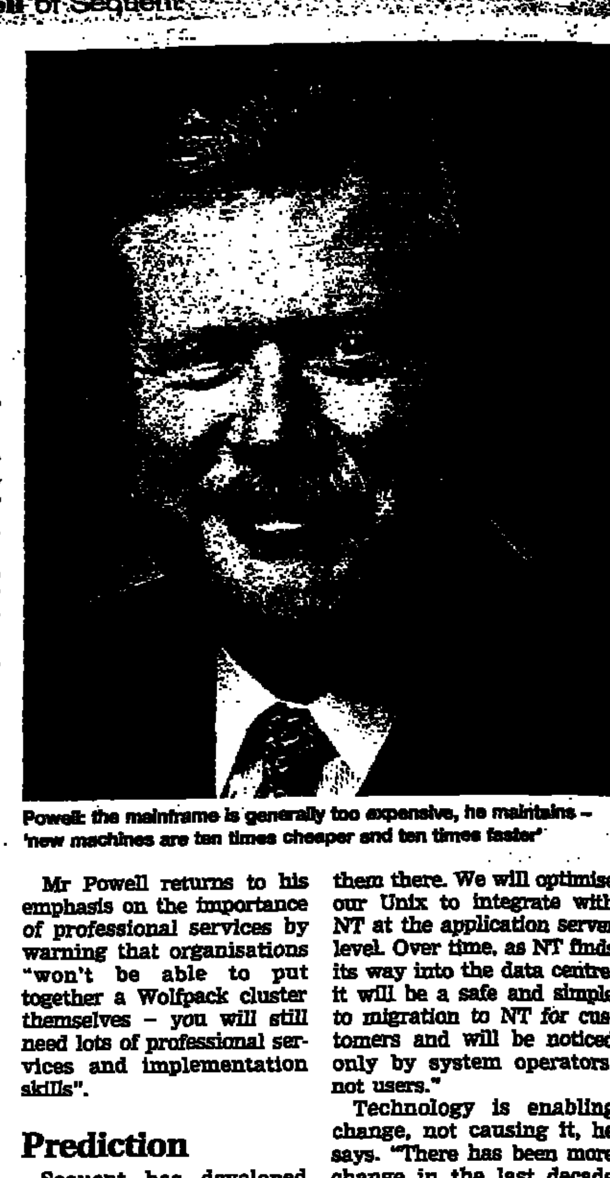
Could this be a threat to Sequent and its competitors?

"We are not competing with Wolfpack," says Mr Powell. "If I could give people what they want with Wolfpack, I would. It is good technology and we will use it, but it isn't a mainframe replacement. I am using the \$5bn which Intel spends this year on research and development by putting their chips together to compete against big expensive mainframe processors."

He believes that Wolfpack "will only give 99.9 per cent reliability, whereas Sequent offers 99.99 per cent . . . the percentage *difference* is small, but amounts to a working day a year and the potential loss from not having a mission critical system is considerable".

He adds: "We use bigger boards and have more scalability and reliability, because we design for the 'top end'."

At the low end of the business there is a volume of 10,000 with a complexity of 1, he says, "but where we are at the top, we have a volume of 1 and a complexity of 10,000."


Powell: the mainframe is generally too expensive, he maintains – 'new machines are ten times cheaper and ten times faster'

Mr Powell returns to his emphasis on the importance of professional services by warning that organisations "won't be able to put together a Wolfpack cluster themselves – you will still need lots of professional services and implementation skills".

Prediction

Sequent has developed Dynix/ptx, its own version of the Unix operating system, but Mr Powell has his eye on Windows NT Server. "We will bring NT into the data centre before anybody else," he predicts.

"Neither Intel not Unix were designed for the data centre, but we have taken them there. We will optimise our Unix to integrate with NT at the application server level. Over time, as NT finds its way into the data centre, it will be a safe and simple to migration to NT for customers and will be noticed only by system operators, not users."

Technology is enabling change, not causing it, he says. "There has been more change in the last decade than in the last two centuries. Organisations now need to reach *all* their employees for the same cost that they were using to serve only 15 per cent. This means that a client/server architecture has to be implemented, which needs a plan, not 'do-it-yourself surgery'."

The option of multi-processor computing

The alternative to using a single, expensive processor in a computer – as used in mainframes – is to bring together a number of smaller processors to share the workload between them, working in parallel.

This can be achieved in a combination of ways:

☐ A symmetric multi-processing (SMP) architecture, referred to as "shared everything," links processors together so that they all share memory, disks and a single operating system, which shares out the work between them.

Additional processors can be added at any time to increase power, but the marginal performance tends to decrease.

☐ A massively parallel processor (MPP) architecture, often called a "sharing nothing" system, links together independent processors, which each have their own memory, disks and operating system.

The database has the task of allocating the work between the processors, which can either be in a single machine or spread between several machines in a "cluster."

Additional processors can be added at any time to increase performance linearly, but the architecture is very complex.

A popular solution is to combine the two. Intel produces SMP boards with four Pentium Pro processors, which are relatively cheap and can be linked together in a single box or cluster in a "shared nothing" architecture.

Sequent has recently launched a non-uniform memory access (Numa) computer, which allows memory to be shared between separate SMP boards, thus effectively combining MPP and SMP.

Parallel computing offers reduced downtime, as well as substantial computing power for mission-critical client/server transaction processing and decision-support activities, at a lower cost than a mainframe computer.

COMPUTER-TELEPHONY INTEGRATION • By Michael Dempsey

How to keep the customers happy

When the customer is king, converging technologies open the way for rapid service response

The marriage of computer technology and the telephone switchboard has given rise to a new world of business applications. The phone can be harnessed as a selling tool, with information flashed up on a screen ahead of staff as they receive a customer query.

The full potential of this approach is only just becoming apparent. Contracts for computer-telephony integration (CTI) are multiplying as an increasing number of IT and telecoms companies discover a mutual commercial interest in each other's technology. The role of the telephone operator has changed, with a more dignified title – 'phone agent' – used to convey this improved status.

One of the engines for this activity is the mushrooming of helplines for computer products. IT systems generate a huge volume of queries and only technology can boost the productivity of telephone-support staff faced with thousands of potential technical questions.

CTI is definitely big business. Sema, an 1,800-strong £700m technology consultancy, relies on telecoms for 12 per cent of its business. And much of this work involves integrating different products to form effective new phone platforms. Hubert Tardieu, the Paris-based telecoms director for Sema, notes that allocating responsibilities is tough in this new discipline – "this is a very difficult subject because it crosses the borders of IT and telecoms," he says.

Sema has just installed an 800-position call distribution system for France Telecom Mobile, using technology from three different suppliers.

This project, worth approximately \$10m, should mean that customer queries are answered swiftly. If all the lines to France Telecom's Lyons operation are engaged, the caller is forwarded to another town, but the query is accompanied with any data that has already been collected by the system.

In other words, France Telecom hopes to encourage user-loyalty by cutting back on customer-frustration. Nobody enjoys repeating their account details into a voice-response system.

Sema integrated computer hardware, known as an automatic call distribution or ACD system, from Canada's Nortel with software from Genesys and Vantive, two US companies. The France Telecom agent should be able to mix-and-match data from the company's customer-care database with information on the state of its own mobile phone network.

The implementation of CTI does not have to involve expensive dedicated hardware. Magic Solutions, a \$40m US company, sells CTI software intended to boost the role of the ACD hub.

Application

In Canada, a driving licence serves as a practical identity document for healthcare administration. But this leaves the Ministry of Health and Transportation with a lot of incoming calls. When the magnetic stripes for joint health and driver ID cards were introduced in 1994, the joint ministry faced some 200,000 calls year from the public.

Magic Solutions' 'Support Magic' software was introduced to the call centre, sitting on a dedicated standard PC and taking signals direct from the ministry's digital phone exchange. Support Magic operates within preordained rules, supplying visual cues to a PC screen that can indicate how long each operator has spent on the phone, or which caller has been waiting the longest for a reply.

If a weary caller selects an option to be called back, Support Magic retains that person's number and flashes it up before the first operator to be free in the order the original call was placed. Support Magic sells for upward of £20,000 – this is a small investment if it permits the Ministry to attack phoneline frustration.

Operator-productivity and improved relations with the general public are the two recurrent themes of CTI. UK Charities Lotteries (UKCL) was recently acquired by the Littlewoods organisation to

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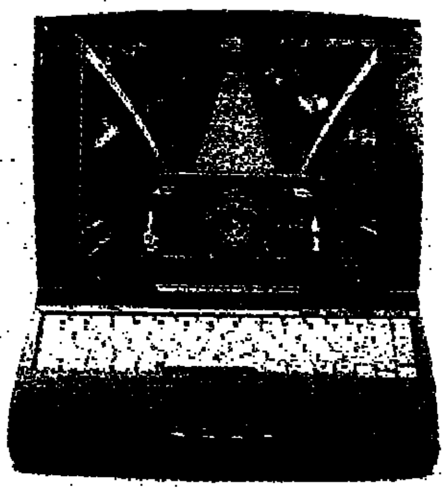


Compaq's latest laptop, the Presario 1060, claimed to be the first multimedia laptop specifically for home-use, costs £1,999 incl. Vat

MOBILE COMPUTING

A way to beat the replication problem

From facing page:

airport security. The presence of so many gadgets invites questions at the X-ray machine, and cuts short time in the bar.

For other users, the fact that software is getting 'bigger' makes it harder for them to work on the same files on their portable as on a desktop personal computer. Investment analyst and frequent flyer, James Ross of stockbrokers ABN Amro Hoare Govett, says, "What I want is a portable computer that weighs the same as a notepad, but has infinite storage."

His Compaq bought a few years ago already needs more memory before it can take the latest version of the Excel spreadsheet.

McInroy has a Pentium-based IBM Thinkpad notebook with no floppy-disk drive. He says: "It sounds ludicrous, but I have 40 megabytes of Ram and one gigabyte of memory on my notebook, and I need them."

Chris Miller, a product manager at portable computer-maker Toshiba, believes the solution to replication is simple: "Use your portable for everything, even office work". This can be achieved, he says, by putting docking stations or port replicators in the office. Then, when mobile executives are back at base, they simply "dock" their computers into a device which connects them to the office network and allows them to use full-size screens, keyboards and other peripherals.

Miller says a docking station costs £660, and a port replicator (which gives users lots of 'ports' for add-ons), costs about £250. Yet docking stations have not spread like wildfire. McInroy says Deutsche Morgan Grenfell tried them and found them unreliable.

Network computers (stripped-down PCs) could provide a solution to the replication problem. If users in offices had them, they would store the majority of files on the company network, or the Internet, from where they could be accessed remotely. Software, such as Lotus Notes, could be used to manage different versions of files, as they were retrieved and updated by fixed or mobile workers.

But security is still an issue for companies such as Deutsche Morgan Grenfell, which does not allow remote access to its main systems, only to e-mail.

Even transferring files using the humble floppy disk can be fraught with problems – "too often, they just don't work," says Ross. "I always copy any files I need on to the portable's hard disk before leaving the office."

INTERNET APPLIANCES: PC MEETS THE TV • By Geoffrey Nairn

Bright prospects for the right 'box'

There is vast market potential for low-cost internet appliances, but also many competing technologies – and no-one want to launch the wrong box

Despite its tremendous growth, the Internet remains out of reach to many consumers because of the high cost and complexity of a personal computer.

Simple, low-cost "Internet appliances" could crack the elusive consumer market and transform the Internet into a truly universal communications medium. Only about 3 per cent of the world's population is currently on line. The remaining 97 per cent represents an enormous market, but one largely ignored by the Internet industry, whose focus has traditionally been corporate customers and existing PC owners.

The industry was jolted out of its complacency last June when US start-up WebTV Networks unveiled a set-top box that allows those without a PC to surf the Net using their TV, phone line and a remote control.

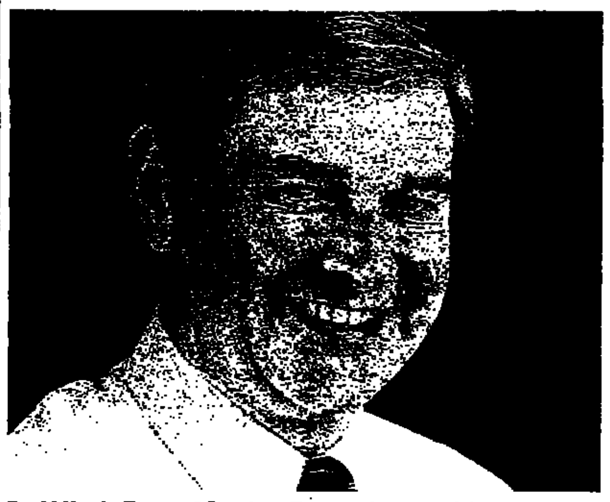
The WebTV, manufactured by Sony and Philips, went on sale in the US just before Christmas. Priced at around \$330, over 60,000 were sold in two months.

A survey showed nearly 90 per cent of buyers of the Philips product would recommend it to others. More than 60 per cent had never accessed the Net before.

"The survey results show that WebTV is here to stay," said Edward Volkwein, marketing general manager at Philips Consumer Electronics.

The WebTV triggered a gold rush among electronics companies as they hurried to launch similar products. The PC industry, by contrast, has been more cautious.

"We think about this market but for us it's not *that* attractive," says Ernst Holzmann, marketing manager with Europe's largest PC maker, Siemens-Nixdorf Informationssysteme." There are a lot of competitors and lower margins."



David Harris-Evans of Spyglass Europe: the potential consumer market for Internet appliances is very much bigger than the desktop personal computer market

Some see the Internet appliance as a real threat. Microsoft chairman Bill Gates, speaking at an Internet conference in Madrid last month, said: "You can do some things with a [Web]TV but its not as good as a PC."

Microsoft wants the PC – rather than the TV – to occupy centre stage in people's homes. In January, Microsoft announced technologies to mix Internet and TV content on a PC and a modified Windows interface for easier viewing in a family room.

"The big thing this year is simplicity," said Mr Gates, who knows that unless the PC industry can produce simpler, cheaper products it will miss out on the growing consumer interest in the Internet.

The research company IDC predicts there could be 22m non-PC Internet devices in the year 2000, most of which will be consumer-oriented, such as set-top boxes, "smart" phones and Internet kiosks.

"The consumer market for Internet appliances is very much bigger than the desktop [PC] market," says David Harris-Evans, managing director of Spyglass Europe.

Spyglass supplied browser software for the WebTV and the Pippin, a CD Rom-based "Net cruiser" launched last year in Japan by toymaker Bandai. Its software will also feature in Mitsubishi's forthcoming Internet TV, called DiamondWebTV.

Software for Internet appliances has to cope with limited memory, poorer displays and must be more reliable.

"You cannot reboot a television," said Mr Harris-Evans. "So, a major challenge is adapting architectures to offer the robustness consumer products require."

Many chipmakers have developed processors for Internet appliances and the competition in operating systems and browsers is also intense.

"The market has yet to be proven but a lot of people are pouring large amounts of money into [its] future development," said Peter Bondar, managing director of UK chipmaker Acorn RISC Technologies, which is working with 20 companies on Internet appliances.

A key issue for all manufacturers is cost. The Pippin cost over over \$600 when released in Japan last year and has not sold well. Analysts believe the WebTV would sell better if priced below \$300.

The Katz Media 'Pippin' – the Irish manufacturers claim that it beats set-top boxes because of its CD-Rom drive, which allows software in the Pippin to be updated to avoid obsolescence

The price barrier is a tough one. To shave-off costs on its NetBox appliance, French start-up NetGem made the keyboard optional and squeezed the software into just 1MB of memory. Nevertheless, the NetBox will cost FF2000 (\$350) when it goes on sale, initially just in France, at the end of this month.

Europe is an attractive market for Internet appliances because of the relatively low levels of PC ownership. Irish start-up Katz Media will launch a redesigned version of the Pippin in Europe later this year.

David Dews, UK general manager, says Katz has learnt from Bandai's experience and will market the product differently. "In Japan, it was positioned as a games console but we are being very careful not to target the games market," he says.

Dews believes the Pippin beats set-top boxes because of its CD-Rom drive. This increases the price – £499 with a modem or £399 without – but also allows the Pippin to be used "offline" to play CD-Roms.

Several European publishers will "Pippinize" their titles and many CD-Roms will contain links to Web sites. The CD-Rom drive allows the software in the Pippin to be updated to avoid rapid obsolescence – a problem for devices with wholly embedded software – and means bandwidth-intensive graphics can be stored on a CD-Rom instead of downloaded.

> A key issue for all set-top box manufacturers is cost, but the price barrier remains a tough one

A promising application for the Pippin is catalogue shopping. "Retailers are asking how to reach a mass market but the restriction with online shopping today is you need a PC," says Mr Dews.

Retailers could distribute Pippins to their customers and include catalogues on CD-Roms with links to online shopping sites.

The Internet appliance has enormous potential but also big risks because of the many competing technologies. The US company ViewCall developed an Internet set-top box in 1995, but has since pulled out of the hardware market. "We did not want to get caught out making the wrong box," said John Bentley, chief executive officer of ViewCall Europe.

The company now provides easy-to-use Internet access that several appliance makers plan to bundle with their products.

DIGITAL PRINTING • By Philip Manchester

Pushing back the boundaries

New digital printing systems allow more economical, colourful, on-demand services to benefit readers and publishers alike

Computers have caused several revolutions in printing over the last three decades. Starting with the automation of mundane print tasks – such as the production of payslips and invoices – in the 1960s, through the desktop publishing revolution of the 1980s, to today's networked digital printing systems, computers have pushed the boundaries of how print is produced and distributed.

One thing computers have *not* done, however, is to reduce the amount of paper used for distributing print. Indeed, paper consumption continues to rise and, with new computer-based technologies such as colour and photographic quality resolution, there is every indication that the upward trend will continue – despite innovative information distribution methods such as the Internet. Humans like paper-based information – it is portable, flexible and user-friendly.

Despite computers' failure to bring about the much-vaunted paperless office, new printing technologies do promise to cause yet another revolution as more print is produced 'on-demand'. Charles A Pasko Ventures, a market research company specialising in emerging print technology, predicts that on-demand printing will account for over 20 per cent of the commercial printing market by 2000. The publishing industry is likely to be the first to feel the winds of change – "there are clear signs that the biggest impact of digital printing technology will be on centralised printing operations. Our involvement in networking shows us that on-demand printing will mean less print produced centrally. The old formula of 'print and distribute' is being replaced by a new one: distribute and print. A lot of the information that is currently printed centrally will go away," predicts Mr Darren Wall, colour printing marketing manager at Hewlett Packard.

He sees a future where various publications, books and directories will be distributed over computer networks and 'readers' will either view them on screen or only print the parts they want to take away.

"In the longer-term, people will download the information and print what they need, on demand," says Mr Wall.

Digital printing not only promises greater flexibility in how print is delivered, however. It is also likely to reduce costs and improve the production cycle.

"The one thing that impacts all branches of printing – from bulk book and magazine printing to company forms – is the issue of stock holding," says Mr Peter Vincent, industry marketing manager at Xerox Production Systems (XPS).

Wider choice for users: the next steps in desktop printing are multifunction devices that can scan, print and photocopy and 'duplex' printers which print on both sides of a sheet of paper. Pictured here is the Rank Xerox multifunctional PRO 610 workcentre

"Book publishers, for example, tend to produce at high volume because it offers the lowest unit cost. But they put two-thirds of their print run into stock. Theoretically, it is an asset – but only if they can sell every copy – which, of course, does not usually happen."

He sees digital printing technology as a way out of this situation – saving both on print-run costs and warehousing. "We advocate going for shorter runs with traditional off-set litho technology, holding very low stocks and topping up with on-demand runs, using digital technology," he says.

Although unit costs are higher with digital printing, the overall saving more than makes up for the extra cost.

"Not only is there a net saving in terms of capital investment, there is also a cashflow advantage in not having cash tied up in stock. And, because of the flexibility of digital printing technology, companies can meet back-orders much more quickly than before," says Mr Vincent.

The same holds true of internal corporate 'forms' printing, he argues. With digital technology, companies only need to print enough invoices, order forms, and so on, to meet the immediate demand.

More importantly, they can exploit another advantage of digital printing – colour.

"Traditionally, people used colour to make things look pretty. But there are real business advantages that can come from using colour," he adds. "The retailer, Marks and Spencer, for example, has found that it can improve the targeting of its mailshots by using colour to highlight different things for different customers, according to their profile."

American Express also found that their response rate to mail shots improved significantly by careful use of colour to add emphasis, according to customer preferences.

Simon Hill: digital systems offer greater flexibility to users

It is not only the traditional printing industries that will benefit from the new wave of digital printing technology. Innovations such as colour inkjet printers and so-called printers that can connect directly to Microsoft's Windows PC operating system have brought down the price of printers for personal use both at home and in the office.

Windows printers – such as QMS's DeskLaser 600 – do not carry the overhead of an expensive processor to carry out the formatting and type font creation. They take an image directly from the graphics that Windows uses to display on the screen. This means that QMS can offer the DeskLaser 600 (a high-resolution laser printer) at a price of £245, which compares to similar products from other manufacturers.

Xerox, too, sees plenty of room for innovation in 'personal' printing. Mr Simon Hill, marketing manager for Xerox's desktop products group, says the next steps in desktop printing are multi-function devices that can scan, print and photocopy and 'duplex' printers which print on both sides of a sheet of paper.

"We believe you have to migrate the advantages of technology right down to the desktop. Duplex printing used to be the province of expensive printers. But it is now coming to desktop. Even more exciting are the multi-functional products that bring scanning, printing and photocopying technology together," he says.

All of these innovations in printing will undoubtedly increase the use of printed media – and paper – rather than reducing it. But it will mean more flexibility and choice.

"The point of digital printing is that it lets people do things they couldn't do before," comments Mr Vincent of XPS.

DESKTOP VIDEO

The jury is still out

Continued from page 7

which are displayed as a menu on the TV.

The user can choose between full screen or video window displays of the remote caller or show both remote and local views simultaneously.

Being able to see the local view lets users see exactly what the other person is seeing, which is useful for pointing the camera or adjusting the room lighting. There is also a video 'mute mode', which allows either caller to shut video transmission off without interrupting the audio part of the call.

The user can choose the resolution and the frame rate of the video transmission. The sharpest pictures are seen at two frames per second and the lowest resolution is at 15 frames per second.

Although the video quality is still jerky, 8x8 believes there is a large potential market for its phone among consumers and small businesses.

But even if videoconferencing were cheaper and better quality, it will only succeed if it becomes more commonly accepted as an effective way to conduct meetings.

Many companies increasingly realise the usefulness of high-end videoconferencing systems, but the jury is still out on whether low-end PC-based videoconferencing systems are useful or a technology whose time has yet to come.

DOCUMENT MANAGEMENT • By George Black

Be prepared for culture shock

After generations of tiresome paper-shuffling, document management systems herald the electronic commerce revolution. But selecting the right system is not easy

Document management will be "among the most crucial competitive-advantage applications implemented in corporations in the next five years," say analysts at the US-based industry Aberdeen Group, in a report to be published later this year.

The group predicts that document management, in which it includes imaging and workflow systems, will be taken up by more than half of the top 1,000 US companies in the next couple of years.

The technology should improve productivity by allowing documents to be shared and processed more easily. It will also become an essential part of competitive-advantage applications such as sales, marketing and customer support systems.

Management of information gathered from the Internet and circulated on private intranets will be one of the big challenges with which document management systems will have to cope.

If Aberdeen Group is right, it will indeed be a revolution, *or* at least an important part of the bigger revolution which is electronic commerce.

Meanwhile, the vast bulk of information held by companies is still transferred to paper, despite promises long ago of "the paperless office". Most of today's paper is filed, then thrown away when it is retrieved from the file after being read only once. The conclusion is that most of it need not have been filed in the first place.

Apart from the sheer waste of natural resources, this way of working is extremely inefficient since so much time is spent in *looking* for documents, copying them, re-typing them and then passing them to and fro manually. One of the biggest sources of lost productivity is in expensive professional time spent searching for mislaid or misfiled documents.

Vendors claim that the investment in electronic document management can give a payback in a few months – and some early adopters confirm this view. Those who *do* manage documents electronically stand not only to save a lot of time, space and money but are likely to be rewarded by their customers for providing a better and cheaper service.

But grappling with the new technology is not simple, with dozens of companies claiming to offer the perfect solution and dozens of consultants jostling to provide expert but expensive advice.

Numerous surveys have detailed the offerings of the leading suppliers who include Documentum, Filenet, Information Dimensions and Interleaf. The reports by Ovum and the Aberdeen Group especially favour the Documentum system.

Departmental document management systems such as those of PC Docs and Novasoft could co-exist with these in many sites. The spread of systems at the departmental level is expected to be rapid in the near future.

These leading products have begun to spread into larger companies in the past couple of years. Often they are taken on as part of a more general attempt at business process re-engineering or a move to a client/server systems architecture.

Industries which have a particular need to process documents as a mission-critical operation have been the early adopters.

For instance, in pharmaceutical companies where getting approval for new drugs is document-intensive, the new technology has been eagerly embraced, especially Documentum's system.

Potential

Another growth area will be around the Internet and intranets, according to Ms Karen Moser, senior analyst at Aberdeen Group: "We are starting to realise just how much information there is out there which is useful to us and which we would like to share with others."

The prevalence of e-mail and groupware systems is making people more aware of the possibility of exchanging documents electronically.

Familiarity with Internet browsers, such as Netscape's Navigator, is making people more capable of searching for, retrieving and displaying a wide range of documents from diverse sources. Using standard business software applications such as Microsoft Office they can then incorporate those documents into their work projects.

Meanwhile, new object software technology is making document management more effective, enabling system developers to add new features faster and allowing users more flexibility in how they view their documents.

The construction of private intranets looks likely to transform thinking about document management. First, they could sharply reduce the cost of setting up document management systems.

Secondly, as Mr Nick Kingsbury, UK marketing director for workflow specialist Staffware, says, an intranet can deliver the critical mass of users which is essential to make a document management project succeed.

Flexibility of applications is another issue which prospective users need to consider. It looks likely that Java or a similar language will be the medium for future applications, so users need to find out if Java applications will be available on the chosen system.

Scarborough Building Society embarked last year on an ambitious programme to do away with paper. It is installing electronic document management with the help of Information Systems Europe, a Sheffield-based company.

The building society's chief executive, Mr John Carrier says: "We have already removed tons of paper from every facet of our business, but we still have a very long way to go."

It could take another two years or more to complete, he says. All outgoing correspondence is scanned and much of the internal processing is now handled electronically, but the company has yet to tackle the scanning of incoming mail.

"It is an enormous culture shock after 150 years of clerical operations, but we *will* get there," says Mr Carrier.

DIGITAL VIDEO DISCS • By Nuala Moran

A turbo charge for multimedia

The DVD format is the result of an unprecedented surge of co-operation between ten leading electronics manufacturers, computer companies and movie studios

Fifteen years ago, Sony released the first compact disc, *Billy Joel's 52nd Street*, heralding the end of vinyl records, and paving the way to multimedia computing by providing a high density storage media for personal computers.

It is only in the past 15 months that CD-Rom (read only memory) drives became a standard feature on personal computers, but already they are due to be superseded by a technologically superior cousin, the digital video disc (DVD).

The DVD looks like a compact disc, but is able to store far more information – initial versions will hold 4.7 gigabytes, over seven times as much as a compact disc at 650 megabytes. This is sufficient to hold a full-length film, along with the soundtrack in three languages, and subtitles in four.

But while the compact disc killed vinyl, CD and DVD share the same basic optical storage technology and will peacefully co-exist. On both types of disc, data is represented by microscopic pits on the surface of the plastic disc. When a beam of laser light is passed over the surface, less light is reflected from the pits than from the smooth part of the disc, a variation which is then translated into the 0s and 1s of stored data.

CDs and DVD look the same to the eye, but – at a microscopic level – they are very different. The 'pits' in a CD are 0.83 microns, more than twice as wide as those on a DVD at 0.4 microns. And while the data tracks are 1.6 microns apart on a CD, they are only 0.74 microns apart on a DVD. This allows for a greater concentration of data on DVDs. Furthermore, it is also possible to put two layers of data on one side of a DVD, doubling the capacity to 9.4 gigabytes, and to have double sided, dual-layered discs which will store a massive 17 gigabytes.

A shorter wavelength of light is needed to read the smaller, more densely-packed pits on a DVD, but DVD players and computer disc drives will incorporate a combined laser which can read both CD and DVD formats.

Benefits

Being able to play compact discs on DVD machines is not the only advantage of sticking with the same technology. It also means that DVD software can be replicated using existing CD production facilities, and using the same disc-size, reduces the amount of re-tooling required to move from manufacturing CD to DVD equipment. Similarly, computer manufacturers will not have to change their case designs to fit the new drives.

The DVD format is the result of an unprecedented surge of co-operation between the ten leading electronics manufacturers, computer companies and movie studios.

In September 1995, the electronics companies agreed to pool the best features of their technology to create a single, unified standard for DVD. As a format for playing movies it has the approval of the film industry's Studio Advisory Committee; and as a computer Rom format, it has the support of the computer industry's Technical Working Group.

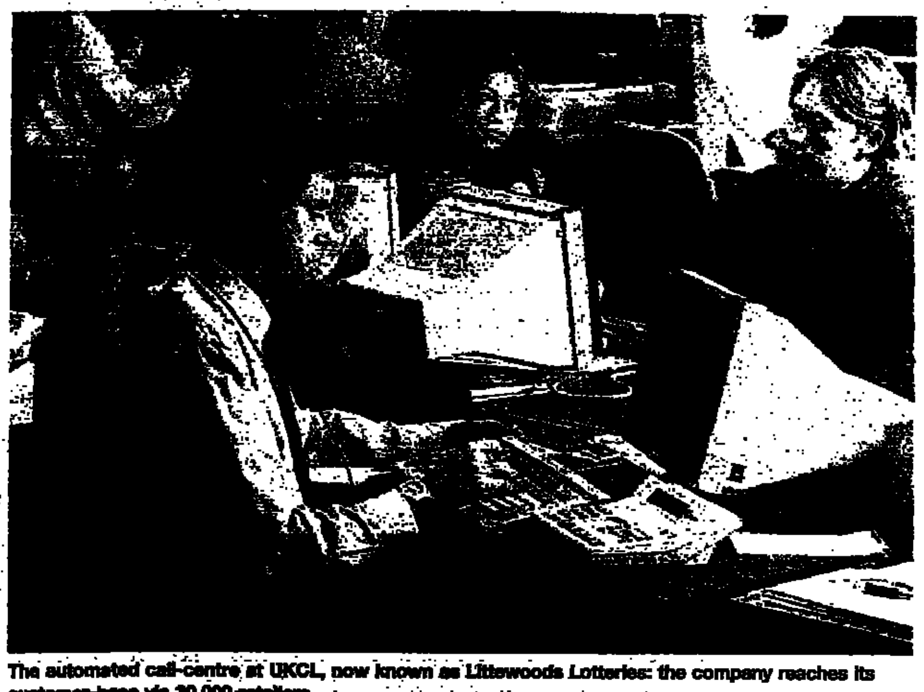
The first DVD players for playing movies went on sale in Japan at the end of last year, and will be available in Europe and the US in the first half of this year.

IBM has said that DVD drives will be available on its high-end personal computer, the Aptiva, later this year. All the leading computer manufactures are expected to offer high-end multimedia personal computers with DVD Rom drives by the end of 1997.

The UK manufacturer, Viglen, will launch a machine featuring a DVD Rom drive from Panasonic, this month. Diran Kazandjian, technical director of Viglen says that unresolved technical issues and low volumes mean that, initially, personal computers with DVDs will cost between £500 to £600 more, but within a year or so, the extra cost will be negligible.

Because of the backwards compatibility with compact discs, DVD is expected to take over very quickly. John Taylor, general manager of IBM's special products group, who has responsibility for assessing the impact of new storage products,

Continued on page 10



The automated call-centre at UKCL, now known as Littewoods Lotteries: the company reaches its customer-base via 30,000 retailers

Banks exploit CTI systems

Continued from facing page

form a £70m scratch-card operation. UKCL reaches its customer-base through 30,000 retailers. Each of these must be called once a week to establish stock levels and arrange new deliveries.

With 20 customer-services agents, each agent faces a daunting workload, with unsuccessful calls demanding re-dialling.

UKCL decided to automate this process with £250,000 worth of software from Royal Blue Technologies. The package, called 'Rostrvm', connects business applications with the signals from a digital switchboard. Caller ID is one Rostrvm function, attaching a file of the retailer's own details, such as usual number of cards sold, to the screen when that one number is dialled by the agent.

Previously, each agent worked with his or her list of retailers. Now Rostrvm has introduced what Royal Blue calls Power Dialling. This means all agents phone out from a central directory of numbers, and the software feeds that number back into the stack if the number called is engaged or unobtainable.

The demise of taped calls received after office hours is one symptom of the improved software management of calls. Before Rostrvm, staff at UKCL (now known as Littlewood's Lotteries) ploughed through eight hours of these calls every working day. This figure has plummeted to zero as agents find their daytime calls hitting home.

The rise of the telephone bank has lent weight to the CTI sales pitch. A recent survey of UK call-centre ratings by IT services group, Hoskyns, found that direct banking services lead the field in customer satisfaction.

Relying heavily on computer processing to handle accounts, they have been quick to exploit CTI. The US Direct Marketing Association estimates that goods and services worth $600bn will be sold over the telephone every year in the US by 2000.

It is now believed that 2m telemarketing staff will be employed by the turn of the century. IT suppliers are rushing into this market, and their current success reflects the retail sector's preoccupation with using customer-satisfaction for competitive advantage.

InterForum

IT update for top business planners

Among the line-up of international speakers for InterForum '97, the London symposium for business leaders on the theme of "identifying the commercial benefits in the networked world", are:

- Bob Dies of IBM.
- Andrew Boswell, Fujitsu ICL.
- Paul Maritz, Microsoft.
- Dr Pat Crecine, Virtual University International.
- Joseph De Feo, president of the Open Group.
- Martin Lambert, Sun Microsystems.
- Dennis Allnet, Lucent Technologies.
- Ron Heinz, Novel.

The symposium on Monday, April 14 at the Queen Elizabeth II Conference Centre in Westminster is organised by InterForum (a not-for-profit organisation, open to both vendors and users alike), in association with the Financial Times. FT-TV will be covering the event.

High profile IT member-companies of InterForum include IBM, Microsoft, ICL, Sun, Novell, BT, Oracle and AT&T.

- For further information, call InterForum in the UK on 0181 332 0446.
- More information is also available via the World Wide Web address: http://www.interforum.org

VIDEOCONFERENCING • By Tom Foremski

A long way to go on the desktop

Users of low-end PC-based videoconferencing find that most systems are slow and hard to set up

When it comes to videoconferencing, there is one advance that would make a great difference to users: providing good quality desktop videoconferencing over regular phone lines.

Unfortunately, desktop videoconferencing over phone lines hits the same road blocks that Internet users face: the bandwidth of the connection is just too slow. Although there are advances in compression technology and new chips that promise to improve the situation, desktop videoconferencing over telephone lines is destined to be jerky, with low-resolution images for the next few years.

Even with the advent of faster modems capable of 56 kilobit per second (kbps) transfer rates, the situation will not improve much, because the higher data rate is only one way, and the return path communicates at just 33.6 kbps.

ISDN lines offer an improvement in both the frame rate and image quality but ISDN is difficult to set up, especially in the US, where different types of telephone switches make setting up ISDN connections more difficult than they should be. This restricts the use of desktop videoconferencing for staff working from home, which has long been touted as the killer application for videoconferencing.

Further down the road, XDSL technologies that offer data communications of several megabits per second over telephone lines hold the most promise, but it will be three or more years before XDSL is widely available.

For users connected on the same corporate network, desktop videoconferencing can be cheaper, because a Lan card is less expensive than a fast modem, and the quality is better because of faster network speeds. But images and audio take up a lot of bandwidth and with dozens, let alone hundreds of videoconferences taking place simultaneously, a corporation's network can be quickly overwhelmed and slow down other users.

A key area where advances are needed over the short term, is in the area of standards. The international H.320, H.323 and H.324 standards aim to ensure that videoconferencing products from different vendors can communicate with each other, in the same way that phone users do not have to worry about calling each other.

But there are still compatibility issues because the standards can be interpreted in different ways. And since each of the three main videoconferencing standards has a sub-set of standards, compatibility issues are widespread, further limiting the potential for videoconferencing.

> PC-based video systems are troubled by poor image quality

Intel is the market leader with its ProShare videoconferencing product but it still requires a relatively fast network or at least ISDN. Intel recently added new features to ProShare, adding video answering machine capabilities that allows users to leave video messages in the same way they leave phone messages.

Intel says that the ProShare Conferencing Plus Package will be useful for global corporations with offices across several time zones. Users have several different options in recording and playback of messages on their PCs. In addition to viewing messages, users can record important videoconferences. The upgrade also supports full screen video images on PCs running Microsoft Windows 95.

In other areas, there are some new advances in the type of videoconferencing possible. BT, for example, is experimenting with its "The Mirror" technology which is being tested by the BBC and may eventually lead to virtual reality based videoconferencing.

Researchers at the US-based Columbia University's School of Engineering and Applied Science recently demonstrated a system called Omnicam which allows users to view a 180 degree wide image and zoom in on parts of the image. In a videoconference involving several people, each participant can change their view of the conference, without affecting the view seen by others. The university says it will license the technology to third parties, which could add a new and useful element to videoconferences.

While videoconferencing has been mainly targeted at business users, other companies see a potential market in the home. The US company, 8x8 Inc., recently introduced a range of videophones that use special chips that improve image and audio quality over telephone lines.

At the recent Consumer Electronics show in Las Vegas, 8x8 demonstrated its $500 ViaTV Phone which can be used over normal telephone lines with images viewed on a TV set.

The ViaTV phone uses 8x8's Video Communications Processor chip, a digital video camera and a high performance modem. The telephone's keypad acts a remote control device controlling ViaTV's features

Continued on next page

VOICE RECOGNITION SYSTEMS • By Joia Shillingford

Falling costs boost demand

While personal computers can 'understand' limited speech, it will be five years before PC-users can dispense with keyboards

Talking to your computer has never been cheaper. A whole host of products that let you dictate words to your computer and see them come up on screen are now available for under £100.

Low prices will increase the demand for these systems. IBM expects a million copies of voice recognition software to be sold by the industry in 1997, a tenfold increase over 1996.

Suppliers include Kurzweil Applied Intelligence of Waltham, Massachusetts which is selling its VoicePad voice recognition software for £79 in the UK.

Distributed by London-based Talking Technologies, the software is available in in the UK at PC World, The Leading Edge and the larger branches of Dixons.

VoicePad has a vocabulary of 200,000 words and users can get to grips with it in 10 minutes, according to Robin Cameron, product development director of Talking Technologies. The software works with its own Windows-based wordprocessor, based on Microsoft's WordPad. As wells as creating documents, users can operate formatting commands, such as bold, underline and so on using VoicePad.

If necessary, VoicePad documents can then be pasted into Microsoft Word. (A more expensive version of the software – Kurzweil Voice – costing £299 lets users work directly in Word, Excel or other well-known packages.)

Voice software costing under £100 is also available from IBM and from Dragon Systems of Newton, Massachusetts. IBM introduced its £89 Simply Speaking software in November. This has the same 30,000-word vocabulary as a 555 version brought out in June.

Talking Technologies also sells a product called Talkback for £79 that will read out text on your computer's screen, such as electronic mail.

It's good to talk

Voice recognition software may be cheap. But why would anyone want to talk to their computer?

Good reasons are that: you don't feel comfortable with computers (voice is more intuitive); you can't touch type; you want shortcuts for Windows commands; or you have an injury, such as repetitive strain injury (RSI). Some voice packages can also be used to surf the Internet.

Steve Semzato, director of channel sales at Dragon, believes voice software can increase productivity. Workers at LL Bean, the Freeport, Maine-based clothing catalogue company, use Dragon Systems to input customer orders received by fax.

Voice recognition software can also be useful for inputting figures into a spreadsheet. A voice-enabled version of the Sage Sterling accounting package using Kurzweil will soon be available. Users should look carefully at the software they are buying. Simply Speaking offers few commands for formatting and lags behind when you're dictating. Because of this, editing usually has to be done by going back and making corrections with a keyboard. The product also offers a limited vocabulary, though 27,000 more words can be added.

Dragon's low-cost product requires users to switch from dictate mode to command mode when they want to use menu commands. "The interface is fairly fiddlesome," says Cameron. "Most people feel they can speak already," he says "and they don't want to have to learn how to do it."

What you need

If you have decided to give voice software a try, you'll need a microphone, a 486-based or Pentium PC (operating at 75 megaherz or more), Windows 3.1 or Windows 95, 16 megabytes of RAM, and a sound card. Whatever the product, low-cost software still requires you-to-speak-slowly- dictating-one-word-at-a-time. So don't expect speeds of over 60 words a minute or levels of accuracy much above 90 per cent.

Continuous speech recognition

"Everybody's waiting for continuous speech recognition," says Cameron. "But it's very hard to organise. When we're talking to people, they can fill in any gaps. Without the pauses, it's harder for a computer to work out what the user is saying. Even context-sensitive products can end up making mistakes. Handling punctuation and people's names is also difficult."

Products which do not work in real-time are easier to develop because the computer takes more time to work out what the user must have meant. Continuous speech recognition products *are* available, but they are very expensive and have few users. "They might be useful for repetitive tasks with a repetitive vocabulary," says Cameron.

Both Philips and IBM have developed continuous speech recognition products for the medical market that do not require irritating pauses. IBM's system costs $4,495 and allows radiologists to dictate and edit reports, removing the need to hire a medical transcriber. IBM says the system has a 95 per cent accuracy rate because it is highly specialised.

Non-specialised systems include Hark, from BBN of Cambridge Massachusetts. Hark was able to transcribe news broadcasts with an accuracy rate over 70 per cent in a recent test.

Motorola plans to introduce a $200 continuous speech product for the Chinese market in late 1997; it has also begun work on an English-language version. Belgium-based Lernout and Hauspie plans to start selling its speech recognition product for dictation in 1998.

Microsoft is working on Whisper, a continuous speech recognition engine that could one day replace the keyboard. The company reckons that a product this accurate could take five years to develop.

Kurzweil has a prototype continuous speech product. But before that comes out, it will release a new version of Kurzweil Voice allowing users to 'cut and paste' and format text using continuous speech commands, such as "go up five paragraphs". Cameron believes that within a year, there will be some new continuous speech recognition software that works in real time. But the first products aimed at the mass market will probably cost more and be less accurate than the sub-£100 discrete-speech products available today.

A voice back for Holly, 13

At the age of three, Holly Porter (right) from York lost her voice. Today, Holly uses a computer text-to-speech system, developed by BT. The computer's voice is not artificial like other speech systems, but matches the sentences typed in with recorded human voice elements to recreate realistic speech. Anyone's voice can be used, so if a recording exists before speech-loss, the person's own voice can be given back. Holly uses the voice of a daughter of the BT scientist who helped develop the system. Pictured with Holly is Charlotte Breen, 12, who provides Holly's new voice.

The computer that talks back to you

BT's world-class 'Laureate' technology allows computers to speak the written word, so that sentences and paragraphs can be transferred from text into natural-sounding speech. The 3-D 'talking head' mimics the shapes of people's mouths as they talk. Researchers say the combination of speech and vision with moving images enriches the exchange of information, with applications in the virtual reality and the next generation of videoconferencing. Looking ahead, they say "we should expect to talk to computers and for them to reply. Humans naturally interact with people, not keyboards".

DIGITAL VIDEO DISCS

IBM expects rapid market growth

Continued from page 8

and the shortage of software, means sales of DVD drives will be slow for the first year – "but, because you can play all existing CDs on the new drives, once the price drops, there will be rapid take-off".

IBM expects the market to grow rapidly in 1998 and 1999, and for DVDs to overtake CDs by the year 2000.

Mr Taylor also predicts a big market for upgrading CD Rom drives to DVD drives on existing computers. He suggests that because of the large amount of data that must be staged from the DVD to the hard disc only personal computers with an Intel Pentium 133mhz chip, or equivalent, would be able to take advantage of DVD.

The high quality of DVD technology is expected to finish off the VHS video format for playing movies at home, but what sort of computer applications will it stimulate?

"Initially, the best applications will be in reference products, such as encyclopaedias," says Mr Taylor. The format will be very important to games producers – "the first irresistible game will trigger a lot of market growth".

Mr Kazandjian suggests that DVD will provide a turbo charge for multimedi applications because it will vastly enhance the quality and quantity of graphics – "for example, rather than flight simulators being based on cartoons, they could be full-motion video, and the same scene could be shown from different angles".

A number of companies are considering putting their software on DVD, says Mr Taylor. IBM is talking to several suppliers about publishing on the format, but he says the talks have not gone very far and there are no formal relationships.

The DVD-Rom can only be used to store data. But within the year, the media will also be available in DVD-Recordable which can be recorded once for archiving, and DVD-Ram (Random Access Memory), which is rewritable.

The standard for rewritable DVD is not yet agreed, but Mr Taylor says all the leading electronics companies are working on DVD-Ram disc drives. In January this year, the chief executive of Toshiba, Taizo Nishimuro said his company would launch a DVD-Ram terminal by the end of 1997, even if the DVD consortium fails to reach agreement on a single technical standard.

"Once DVD-Rom is established, it will give the market the confidence to go to the next stage," says Mr Kazandjian. "Imagine what you will be able to do once the rewritable DVD is available: you would be able to download movies over the telephone."

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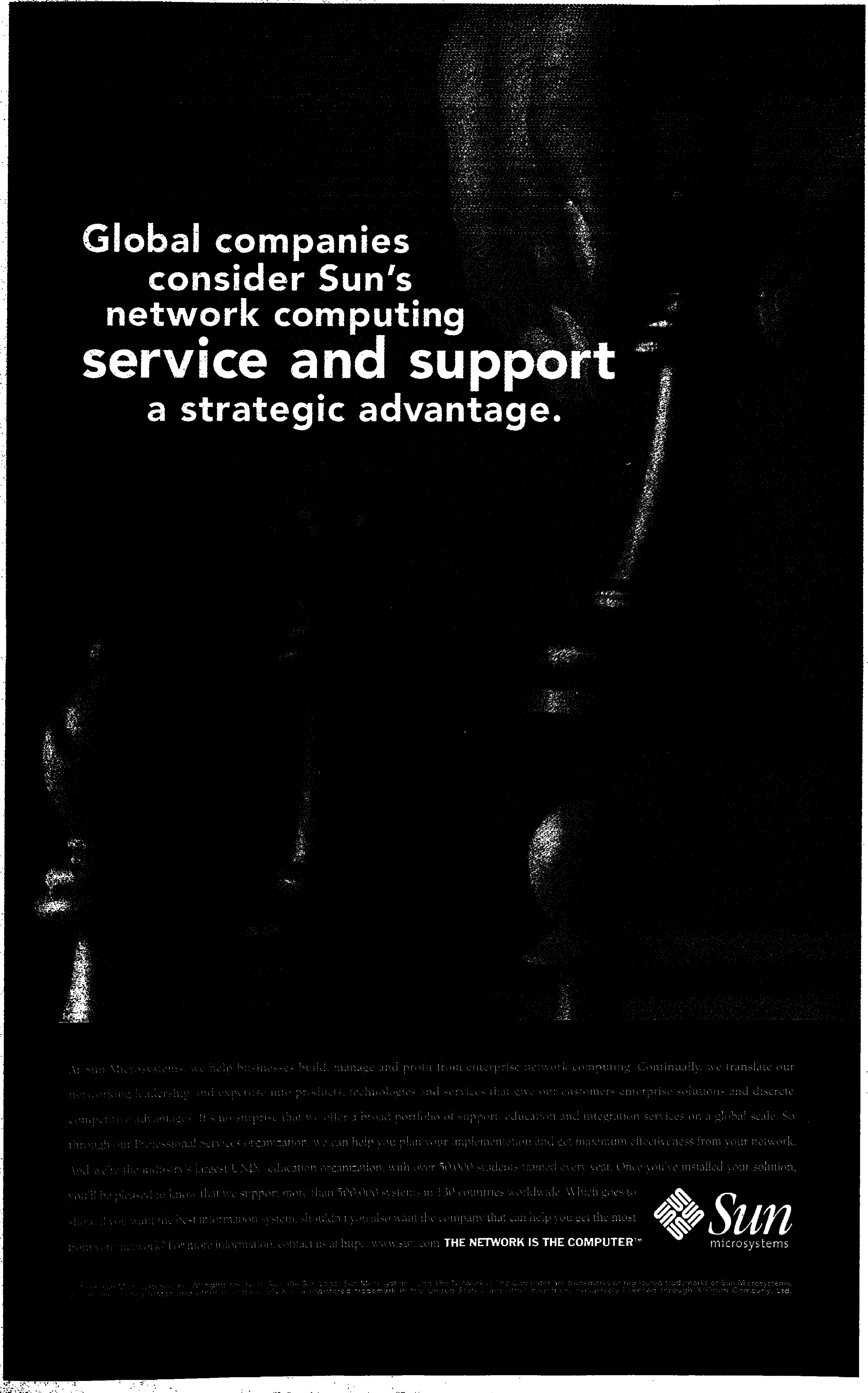


NEW WEB APPLICATIONS • By Geoffrey Nairn

Web opens the way to virtual worlds

Software companies are pioneering futuristic web applications that combine sound and three-dimensional pictures to bringvirtual reality for the first time to millions of users of the World Wide Web

The World Web Web has spread like wildfire through the software industry, sweeping away existing technologies and creating big opportunities for those players who can adapt quickest to the Web era.

Today, there are few software companies not working on "Web-enabled" products – and the Web has created whole new software categories: Web servers, browsers, tools and "plug-ins".

"The Internet has once and for all changed the focus of IT," says Peter Pagé, a director of Siemens-Nixdorf Informationssysteme, Europe's largest IT company. SNI believes intranets will soon run all of a company's IT applications with Web browsers becoming the standard interface for corporate users.

Yet, two years ago, few companies had heard the term "intranet" and the Internet was mainly for academics and pioneers. The Web caught many established software companies off-guard. Lotus, for example, had to abandon proprietary technology and painstakingly rebuild its Notes groupware product to work on the Internet and corporate intranets.

Novell, a competitor, did the same with its GroupWise product, which from next month will work with the latest Web technologies, such as Java applets.

Even the world's largest software company, Microsoft, was initially slow to grasp the Internet's importance, but it has quickly made up the lost time. Competitors fear Microsoft will dominate Web software as successfully as it has done with PC operating systems and office automation software.

"Microsoft has a unique position," says Melissa Bane, an analyst with the Yankee Group, a US research company.

The most public battle for market share is taking place in browsers. Netscape's lead of the browser market once seemed unassailable, but Microsoft Internet Explorer is rapidly catching up with Netscape Navigator.

Market leaders

US research group, Jupiter Communications, says Navigator's market share is 59 per cent while Internet Explorer has 31 per cent.

By the end of 1997, Microsoft will take the lead with a 52 per cent share against Netscape's 38 per cent, Jupiter predicts. This month, Microsoft previews the latest version of Internet Explorer (IE 4.0) which incorporates a new technology called Active Desktop. This takes the familiar Windows desktop and gives it a browser interface, allowing the files inside a PC to be browsed in the same way as the Web.

"IE 4.0 provides a single-user interface for everything you do on a PC," says Jeremy Gittens, Internet marketing manager at Microsoft. "The browser is no longer a separate application but is integrated within Windows."

The new browser will also incorporate push technology *(see report on facing page)* to allow users to receive information delivered direct to their desktop over the Internet or intranets.

Netscape plans to match the many new features of IE 4.0 in its forthcoming Communicator product and this breakneck pace of development has rapidly left behind smaller players in the browser market.

Spyglass, for example, has stopped trying to compete with Netscape and Microsoft in PC browsers and refocused development on the emerging market for "thin" browsers. These need less memory than Navigator or IE and can thus be squeezed into low-cost Internet devices, such as Network Computers and consumer-oriented Internet appliances, *see report, page five.*

IBM's will unveil a NC later this year that may be bundled with Spyglass software. Thin clients are a promising new market for software developers, particularly as Microsoft has not yet established its software as a standard for non-PC devices.

Nevertheless, both Microsoft and Netscape have developed thin browsers, so smaller software houses will have to move quickly. Analysts see the browser war as a foretaste of bigger battles to be fought over other segments of the Web software market.

In Web servers, for example, the most widely used software is a free program called Apache that runs one in three Web sites. But the growing commercialisation of the Web is squeezing out such "public-domain" software and Microsoft's server products are rapidly winning over commercial Web users, according to the British company Netcraft, which conducts a Web server survey.

Netscape and Microsoft last year both shifted their Web strategies towards the corporate market. Netscape claims it shipped a million Internet and intranet servers in 1996 and recently announced a new version of Netscape Enterprise Server, which allows employees to access and share information over an intranet.

However, analysts feel Microsoft has the advantage in the corporate market because of its Windows NT operating system, rapidly becoming the preferred "platform" for intranets.

Netscape's decision to take on Microsoft in corporate intranets has caused it to neglect the consumer market, according to a report by Jupiter Communications.

The analyst company expects Netscape's market share to fall significantly among consumers unless it can produce a winning Web product for them.

One of the reasons the Web has rapidly eclipsed other sections of Internet is its unique ability to handle multimedia. Sound, video and animated graphics are today standard features on many Web sites. Netscape Navigator and Internet Explorer can handle a rich range of multimedia content either directly in the browser or via third-party "plug-ins".

RealAudio, for example, is a plug-in browser technology that allows users to listen to sound clips as they are downloaded from the Net – earlier technologies made you wait for the download to finish.

The developer, Progressive Networks, wants to extend this "streaming" idea to other media types, and its

Continued on facing page

New home-learning online service

HomeCampus is a new home-learning online service from British Telecom that builds on the success of CampusWorld, now used by 3,000 schools.

The new service is aimed at families with children of school age – primarily secondary school age – who are committed to contributing and supporting the learning process in school and at home.

Content already on the site ranges from careers guidance, through to educational visits to NASA News and a service called "Pets on the Net".

HomeCampus is available at a special Spring "early adopter" half-price offer of £7.50 for three months access. From April, the service subscription will be £4.99 a month.

Purchase is initially by credit card via BT Shop Online – http://www.btshop.bt.com/.

HomeCampus is a constantly evolving service, responding to feedback from parents and children, says BT. Unlike some other online services, HomeCampus can be accessed via any suitable multimedia PC with any internet service provider, including BT Internet.

TELEMEDICINE

Diagnostic services via the Internet

Continued from page 11:

has widened the potential market for other areas of telemedicine, such as teleradiography. Traditionally, hospitals wanting to handle X-rays in digital form have had to buy proprietary Picture Archiving and Communications Systems (PACS). These require dedicated viewing stations, costly optical juke boxes to store the images, and broadband networks to transmit them.

AT&T Healthcare, a UK division of the US telephone company, used to sell proprietary PACS systems costing more than £1m. "We decided to move towards lower-cost products based on standard hardware and software components," says Ray Heath, business development manager at the company. Last month AT&T Healthcare demonstrated a PACS system based on PC and Internet technologies, costing, it claims, just £10,000 per user.

The system uses special compression to reduce the size of the X-ray images – which uncompressed can take up 12 megabytes – enabling them to be stored on hard disks and sent over the Internet.

Mr Heath admits the compression leads to poorer image quality than a proprietary PACS system, "but for diagnostic purposes the loss of quality is acceptable in the majority of cases".

One country where telemedicine has moved beyond the trial stage is Norway, the sparse population and harsh geography of which have caused Telenor, the national telephone company, to invent a multitude of applications bearing the "tele" prefix, including telecardiology, teledermatology and telepsychiatry.

"One of the driving factors is the need to ensure that all people in Norway have easy access to healthcare," says Angela Myhre, a Telenor market development manager. Two hospitals in London and Oslo are currently testing an advanced telepathology system, PathSight, that Telenor hopes to sell internationally.

Benefit

More than 30m biopsies are performed in Europe each year and many would benefit from a second opinion, the company claims, particularly as health authorities move towards early diagnosis and prevention, which increases the need for specialist referrals. PathSight uses advanced digital camera technology to capture high-quality images at high speed and the consultant can operate the microscope remotely.

"We found that what pathologists really wanted was the ability to get diagnostic-quality images and have control of the microscope," says Ms Myhre.

Telenor has also developed IntraMed, a satellite-based intranet designed specifically for the health community, and PathSight will be one of several applications and information services that Telenor offers on IntraMed.

It uses the same cheap technologies as the Internet but access is restricted to subscribing health institutions. Telenor hopes to have 50 hospitals connected within 12 months. Telenor already uses satellite links to take telemedicine to remote communities far north into the Arctic Circle.

GOVERNMENT SERVICES • By Alasdair Barron

Pilot projects provide electronic information

New delivery systems offer substantial savings compared to paper-based information

The UK government's vision of user-friendly government services to be delivered direct to citizens in their homes and public places is set out in the recent Green Paper, entitled "government.direct".

The technology now exists "to bring government to the people, giving them access at a time and place convenient to them," says Roger Freeman, public service minister.

With the benefit of private and public links, the UK government will be accessible to businesses and to members of the public, 24 hours a day, seven days a week, with instant responses in many cases.

"We believe that many people will prefer to use these systems, rather than paper, and that it will be possible to offer secure access to government so that people can check their private information in the same way that balances can be checked at a cash machine", he says.

Three new pilot projects have been set up in order to assess the success of electronic information delivery to the public.

"Direct Access Government" brings together official forms and regulatory guidance from all the main government departments to provide a "one-stop regulation shop". The service is available free of charge from trial locations, as well as via the Internet.

The information displayed on a recipient's screen can be printed out, but as yet there is no way to return forms electronically. This is expected to follow soon when issues such as establishing the validity of electronic signatures have been solved.

Expertise

A "touch screen" pilot will provide information on tax, VAT and national insurance; and in Scotland, the Scottish Land Information Service pilot provides information to individuals and businesses.

According to Graham Jordan, director of the Central Information Technology Unit, Citu, the government hopes to use the expertise of the private sector to deliver electronic services which will provide substantial cost-savings over paper systems.

Those savings will finance electronic delivery in future. The use of a number of delivery systems to provide services is being considered. For example, existing financial networks could be used to make services available through public access points.

"It's vital to make our electronic communications as user-friendly as possible, and one of our aims is to use responsive dialogue with prompts, as an aid to filling in forms correctly," says Mr Jordan.

The Green Paper is the first to be published in CD-Rom form. It is a visually attractive product with graphics, video, and word-searchable text. Pre-prepared questions with space for user-comment are provided.

Making the Green Paper available free over the Internet, and in CD-Rom form for £4.25 from the CCTA (Central Computer and Telecommunications Agency), will have income implications for HMSO which supply the traditional printed version for £6.85 through HMSO bookshops.

One of the reasons for a planned review of Crown copyright issues later this year is the need to open the way to expand these electronic information services.

This new 'touch screen' unit provides UK government information on a wide range of topics for businesses and individuals

The Green Paper was produced by Citu, part of the Cabinet Office which was established a year ago to harness the latest technology, to improve co-ordination across government, and the effective delivery of services to the public.

One of the driving forces behind the move to electronic services is a commitment to improving "national competitiveness", particularly by giving businesses better access to information.

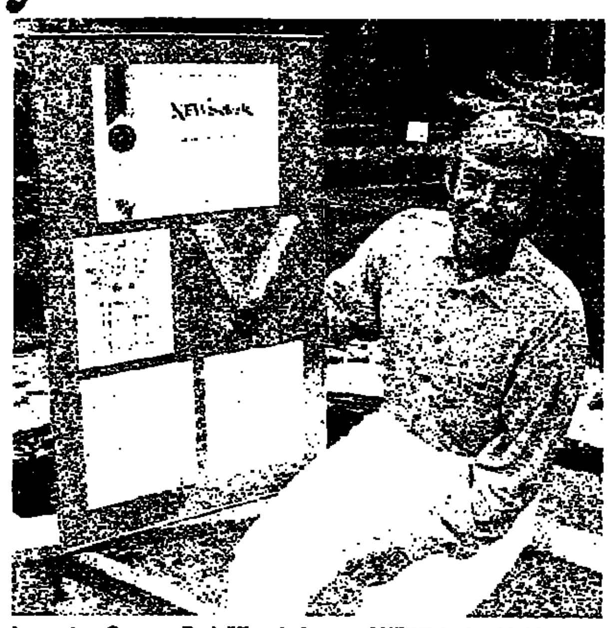
According to the Cabinet Office, the number of comments received so far on the green paper is high – and half of them were received electronically.

NEWS AND VIEWS • By Stephen McGookin

Virtual newsroom for industry events

Jazz fan Graeme Radcliffe is far from blue at the moment

In an environment where "revolutionary" developments are announced about twice a day and three times on Fridays, his baby – NEWSdesk – is nothing less than an application that has fundamentally altered the way journalists access information and how client companies use the resulting data to more effectively plan their campaigns.



Innovator: Graeme Radcliffe, chairman of NEWSdesk with his company's ComputerWorld Smithsonian Award

Launched in November 1993, NEWSdesk has grown out of Radcliffe's International Press Marketing Group (IPMG), originally a 26,000-source technology database company, to an Internet-based business with a turnover of around £2m.

NEWSdesk is a "pull-based" news service, where journalists and analysts can either request specific press releases via e-mail from a list of headlines that can be tailored to their specific needs, or can access the release directly at the NEWSdesk web site (*www.newsdesk.com*).

After winning the DTI's Innovation Award in 1994, NEWSdesk was invited by the Smithsonian Institution in Washington DC to be part of the permanent research collection on innovative information technology, something of which Radcliffe is particularly proud.

The service currently has in excess of 5,000 users among journalists and industry analysts, as well as more than 500 client companies posting their latest news releases through the site.

The latest version of the interface, NEWSdesk 3, launched in the first week of March, incorporates developments such as Vivo videostream technology to allow clip sampling and is, Radcliffe says, more intuitive from the point of view of the end-user.

At the same time, it arms PR managers from client companies with a highly useful tool for monitoring the effectiveness of specific campaigns because of sophisticated end-user profiling.

"Some clients request digests of activity each week," he says, emphasising the extent to which the product allows public relations consultants to compile a database of contacts, track their interest in specific stories and thus be more proactive in how they plan campaigns and allocate publicity resources.

As a way of meeting what Radcliffe calls "the challenge of critical mass" when dealing with a product that can be replicated worldwide, his company has reached agreements with key players such as Reuters globally, Business Wire in the US and Systems Group to cover the growing South African market.

Upcoming plans include the rolling out of the service into the automotive, healthcare and personal finance sectors.

"We're working in an area where once every 12 months you have to re-invent yourself," says Radcliffe, who sets himself annual goals as a mechanism for charting his company's development.

He says that a year from now, he sees the company moving towards flotation on the back of an expansion both in the US and particularly in Asia – through collaboration agreements and developing what he calls a "national partner network," which would allow a greater degree of localised input.

The company is also working closely with trade show organiser Mecklermedia to apply the "virtual newsroom" to industry events. Their reach covered 26 shows during 1996, and Radcliffe expects to double that this year.

As might be expected from a man who is passionate about new technology, he also wants to see a broader debate about the role of society and civic education in the networked world.

He envisages the birth of a "digital think tank" which would involve the input of people both from the community and government, although he stresses that for the debate to be effective and meaningful, the project has to be approached on a non-partisan, apolitical basis.

INFORMATION MANAGEMENT • By John Kavanagh

New IT qualifications launched

A master's award for senior IT staff is now implemented

The UK's National Health Service (NHS) is aiming to create a new IT and end-user profession by setting up qualifications in a discipline which it has identified as information management and technology (IM&T).

The NHS says there are more than 5,000 candidates in a wide spread of jobs, from IT to statistics. Those promoting the qualifications believe the impact will range from more successful IT projects to higher efficiency in the management and use of information.

It is also expected that holding the qualifications could eventually influence promotion decisions, although this will depend on the numbers taking them up – which depends in turn on financial pressures and whether individuals might be prepared to fund this aspect of their own career development.

The qualifications were launched in November 1995 as the Professional Diploma and Advanced Professional Diploma. A master's award for the most senior staff is now going through trials and a certificate is being considered for junior people. In addition, people in other disciplines who need some of the skills can take one or more of the six modules which make up the full qualifications.

The modules are IM&T in health care; IM&T strategy and change management; information management, including research and analysis; information systems, especially system development and identifying benefits of proposed applications; IT and how to specify, procure, introduce, manage and evaluate it; personal, professional and management skills; and an integration module which brings all the others together.

"We have specialists in IT, statistics, libraries and so on, but they need to understand both the information issues and the systems so that we can get information used efficiently," says Ms Judith Le Maistre, a statistician turned IT project leader in the NHS Executive, West Midlands, and the outgoing chair of the Association for IM&T in the NHS.

"IT people, for example, have a reputation of being isolated and not appreciating business needs. The professional awards address such issues."

Viewpoint

Dr Keith Boardman agrees. He is network services director at Walsgrave Hospital in Coventry and encourages his staff to consider the qualifications.

"IT projects are not always as successful as they should be," he says. "Part of the reason is that we've not had the right people making the right decisions.

"Across the NHS there are disciplines with their own qualifications – doctors, pharmacists, accountants – but this is not so in IT or information management. There is no well-defined career structure in IM&T: people tend to have drifted in from other backgrounds, so IM&T has not been identified as a profession. The new awards can put this right by raising the professionalism of IM&T staff."

Judith Le Maistre believes the qualifications are also important for the way they combine both academic standards and the measurement of a people's ability to apply their learning to practical work.

Indeed, the qualifications are awarded on an individual's portfolio of work, although the new master's award demands "a significant original piece of work which contributes to the body of knowledge in the candidate's specialist area of IM&T".

"All the qualifications count as credits towards degrees, so people can get academic credits based on a portfolio of practical work and experience alone," says Ms Le Maistre.

However, take-up has got off to a slow start, for various reasons. An internal trial in 1995-96 involved 35 candidates ranging from IT managers to nurses and doctors who had become project leaders and auditors. But in the first year of live operation only 16 people have started.

This is put down largely to the fact that staff enthusiasm waned because there were no organisations signed up to provide the training. Two colleges went live only last summer, six months after the launch, two others are now finalising arrangements and two others are submitting applications.

Cost is a significant issue in all health services facing constant financial pressures as medical progress increases expectations and demands for health care. Taking all six modules to achieve a diploma costs £1,800-£2,000 over two years, including two to three days at a college for each module.

"Financial pressures always affect training," says Dr Boardman. "However, we might expect individual candidates to contribute to the cost of their own development. In other professions, people pay to get qualifications, and people also fund their own part-time higher degrees. This also benefits them by underlining their commitment."

Leadership

He feels that more leadership is needed from senior managers and human resources managers, who already encourage people to work towards recognised qualifications in more established disciplines. He thinks the new master's award could help here by attracting more senior staff to get qualified and set an example.

The slow start means there is a long way to go before career progression will depend on holding a diploma, but the Association for IM&T in the NHS hopes the qualifications will become accepted to this extent.

"Having a qualification says something about an individual," Dr Boardman says. "In 5-10 years' time, employers will seek out people holding the diplomas."

Judith Le Maistre has similar hopes: "Qualifications are a requirement for promotion in other health service disciplines, but this takes time," she says. "Other professional bodies have been around for decades, so it's very early days yet."

By focusing on one industry, the NHS move could help the British Computer Society and other bodies which have been trying to promote professional qualifications for IT specialists in general for some years. The BCS is now working with the Institution of Electrical Engineers, and in particular on drafting the minimum skills and qualifications that should be demanded of people developing systems on which public safety depends.

TELEMEDICINE • By Geoffrey Nairn

Specialist treatment for remote patients

The Internet is starting to deliver the benefits of telemedicine at affordable costs

The healthcare industry is poised on the edge of a digital revolution in which telecommunications and computers could revolutionise many medical procedures and administrative chores.

The revolution has been a long time coming, however, and telemedicine, one of the most promising applications, has been stuck in the laboratory for many years, held back by steep equipment costs and the limited availability of high-speed multimedia networks.

For this reason, the health industry is warming to a new generation of cheaper systems that work over the Internet and could finally deliver telemedicine's much-vaunted benefits.

Using communications to bring healthcare to remote patients is hardly new – Australia's flying doctor service has offered advice by radio for decades. But the increasing specialisation within the medical profession, and patients' higher expectations have led to a greater dependence on technology and an increase in specialist consultations. With telemedicine, the distance separating patient from specialist is no longer an obstacle and the latter's scarce time can be used more efficiently.

In recent years, a host of distinct disciplines have emerged in the field of telemedicine, such as telepathology or teleradiology but telemedicine has not taken off because of the high cost of equipment and the limited availability of broadband networks needed to carry the high resolution images.

Telemedicine is more demanding than other multimedia network applications, such as videoconferencing. For many applications, the image that the consultant sees on the remote monitor must be the same as if he or she were physically present and that requires lots of bandwidth.

"You need a 2 megabit-a-second line to do remote ultrasound diagnostics properly," says Tim White, a consultant with the Centre for Industrial and Medical Informatics in Nottingham, UK. CIMI, set up by the local university, has developed a remote ultrasound system for obstetrics. Around 10 per cent of pregnancies show anomalies in their foetal ultrasound images, though usually worries are groundless.

The CIMI system allows such images to be quickly referred to a remote specialist for a second opinion. It is based on pioneering work in Australia, where the nearest consultant obstetrician may be several hundred miles from the worried expectant mother.

The system is interactive and an audio link allows the consultant to guide remotely the technician operating the scanner. It uses Digital Equipment Alpha workstations and a combination of Ethernet and fibre optic links to connect the workstations to the scanner of a local hospital, located on the same campus.

In Australia, a similar system has been used over longer distances and the 2Mbps bandwidth has been achieved by linking together up to 16 ISDN telephone lines.

Mr White admits the heavy bandwidth requirement limits the commercial development of the system. CIMI has looked at using the Internet, but Net-based video cannot yet offer the full-size moving images required for the ultrasonics application, he claims.

Internet technologies are developing fast, however, and US firm Perception Ultrasound recently unveiled a Net-based ultrasound image transfer system.

The arrival of the Internet

Continued on next page

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PUSH TECHNOLOGY • By Geoffrey Nairn

Turning the Net on its head

Web broadcasting, as 'push' technology is also known, could dramatically change the way publishers and advertisers look at the Internet

Cannes, in southern France, has hosted the ambitions of many young stars. Last month it was the turn of US software house Intermind, which was at Cannes' Milia trade fair to convince Europe's multimedia publishers of the benefits of its 'push' technology – one of the hottest topics in Internet publishing today.

Push technology turns the Internet on its head to address a frequent complaint of Net neophytes – "too much information". Instead of people having to search the Web for the information they require, push technology allows a publisher to pump tailored content direct to their desktops.

Intermind is one of a dozen companies fighting for prominence in the push technology industry. Analysts say the real battle will commence in the coming months when Netscape and Microsoft release their first push products.

"It is a crowded, cut-throat market and suppliers have got to move very quickly," says Melissa Bane, an analyst with the Yankee Group, a US research firm. It predicts push technologies will account for \$5.7bn, or over a third, of the revenues generated on the Internet in 2000.

The idea behind push technology is not new – electronic mailing lists have existed for years. But unlike e-mail, push software can send multimedia as well as text. It can also provides feedback on who reads what, thus putting Internet publishing on a firmer commercial footing.

Contrary to popular opinion, most people do not aimlessly surf the Net. According to the Yankee Group, 51 per cent of users always or usually go back to the same sites. But collecting information this way can be frustrating, particularly for those lacking high-speed connections. Push technology seems a perfect solution.

News junkies can subscribe to different news "channels", private investors can receive share prices, delivered to their desktop, while corporations can push memos and software updates to their employees over an intranet.

Web broadcasting, as push technology is also known, could dramatically change the way publishers and advertisers look at the Internet, which today suffers from poor marketing and a lack of customer knowledge.

"Publishers are looking to be more proactive in reaching their audience on the Internet," says Jerome Pache, director of business development at Intermind. The company has 150 content-providers and, at Milia, announced a clutch of new deals with European companies, including Kinnevik, the Scandinavian media concern; Internet2000, a German Internet distributor; and Centrum Systemow Teleinformatycznych, the Polish state telephone company.

"Intermind's technology will have profound implications on business applications," says Axel Schultze, president of Internet2000, which will use the Intermind Communicator technology to keep in touch with its 100 resellers throughout central Europe.

The first and best-known push vendor is PointCast, which launched its product 12 months ago. The PointCast Network allows "viewers" to receive channels of news, sports and other information contributed by 45 heavyweight media companys, such as Reuters, CNN and MSNBC,

Jerome Pache of Intermind, in Seattle: 'Publishers are becoming more pro-active'

the online venture between Microsoft and US broadcaster NBC.

PointCast has created a massive data centre in California that aggregates information from the providers, reformats it to fit its proprietary screen display and then pumps out 200m stories a day to its viewers. The company also collects "viewing figures" for the publishers using the demographic data users supply when they first run the software.

All the channels are free and the company makes its money by selling \$50,000 adverts displayed in the corner of each screen.

Microsoft will use PointCast technology in its forthcoming Active Desktop software. This combines the Windows 95 operating system and Internet Explorer browser in a single product.

Analysts see the Microsoft deal as a two-edged sword. PointCast gets a much bigger potential market as every new PC will come with Active Desktop and a channel button to select the PointCast Network. But Microsoft will include other channel buttons on the Active Desktop – one likely candidate is MSNBC. This allows publishers to bypass PointCast and broadcast direct to any PC from their own own web site.

The newer push vendors, such as Marimba and BackWeb, have adopted this direct delivery model. They charge publishers for the "transmitter" software that has be to be installed on their web servers, while the "receiver" software is given away to users.

New software tools are being developed to make it easier to create channels for Active Desktop and Constellation, the forthcoming push product from Netscape, which is based on Marimba's technology.

Analysts believe that many publishers will prefer to create their own channels, as this gives them exclusive control over content, advertising and brand identity. PointCast says do-it-yourself web broadcasting is technology-intensive and cannot provide publishers with the detailed "viewer" figures that its proprietary software collects each month.

"It's very difficult using web servers to really know how many people see the information," says Andreas Gurulas, PointCast's director of product development.

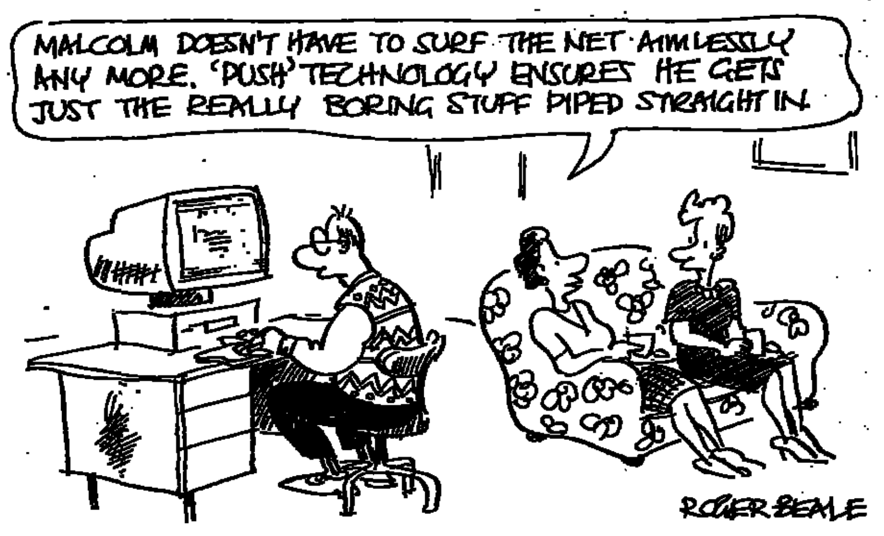
Intermind claims to offer the best of both worlds. Publishers have complete content control and broadcast from their own site, while the Intermind software installed on users' PCs collects statistics that are periodically forwarded to Intermind's own web site.

Intermind aggregates this information – the system has been independently audited for privacy protection – and provides publishers with detailed data on viewers' interests. It charges publishers \$20 to \$200 a month for this data.

Analysts believe PointCast has been successful because it was first push vendor and attracted the biggest media names. But its proprietary technology and advertising-based business model look increasingly vulnerable as direct-delivery technologies proliferate.

PointCast is now looking at introducing subscription-based premium channels to shore up revenues if advertising drops. But news junkies can sleep soundly for PointCast will not abandon its free channels.

"Anything that is free today will always be free," says Mr Gurulas.



ONLINE SHOPPING • By Geoffrey Wheelwright

Experiments in retailing

The biggest sales potential is for products that can be delivered and paid for digitally, such as software, movies and music

What would you be prepared to buy online? That's the big question facing the world's retailers as they struggle to find – through a massive, global trial-and-error experiment – exactly what goods and services customers are prepared to accept via orders placed on the World Wide Web.

There are two very different kinds of purchases that can be made online – and each represents a different kind of buyer. The first kind of purchase simply uses the Web and Internet-based electronic mail as a replacement for old-fashioned catalogue shopping. This kind of purchase has much more in common with television's Home Shopping Channel and the hundreds of telephone-based catalog shopping operations around the world than it does with true 'electronic commerce'.

Quite often, the only electronic component to this kind of purchase lies in the finding of the goods you want to buy on a Web catalogue page – and then sending your order for those goods via electronic mail or even by conventional telephone, using a number advertised on the Web page. In such a scenario, goods are typically delivered via a courier service.

Technically, there really is nothing very clever about this kind 'Web-based shopping' – except that it saves the retailer the cost of producing, printing and mailing a print-based catalogue. In the case of orders that are accepted via electronic mail (or submitted directly to the supplier from the Web site via a commerce database), there is a further saving for the retailer on staff who would typically be part of a telesales operation.

This could produce lower prices – and therefore a moderately compelling reason for people to consider buying goods in this way. It is likely, however, that only commodity goods that do not have a 'touch and feel' quality associated with their purchase (such as, for example, when buying paper clips, photocopying paper and other basic supplies). In addition, there are also a number of 'human intangibles' that play a role in the success of such online sales, although they are little different from those at work in the areas of catalogue and TV shopping.

It may well be that you like the sound of your paper clip supplier's voice, or that a trip out to the local office equipment supplier for a box of printer paper brightens up another otherwise dreary day. These considerations have little to do with logic or efficiency – but they are real human traits and are ignored by online retailers at their peril.

Some software companies, such as Microsoft, suggest that part of this problem can be answered by offering one-way Web-based video-conferencing so that users can see and hear the people they are buying from. But today's low Web access speeds indicate that this kind of service is still years away – and may not adequately meet the concerns of those who treasure the intangibles of their 'live' shopping experience.

A parallel could be drawn between the worlds of cinema and TV – cinema attendances fell sharply, but today, ticket sales are rising as cinema-goers and friends discover comfortable, new-style venues offering an 'added-value' experience.

The biggest potential for growth in Internet shopping, however, lies in goods that can be ordered, paid for, processed and delivered digitally. These include computer software, magazines, newspapers, movies, music and specialised video programming.

Using modern computers and high-speed modems, many of these items are already available free as Internet product "samples" – short movie clips, sound files containing a few bars of a popular song and abbreviated online versions of popular publications).

The biggest push, of course, comes from software vendors who can deliver their product completely over the Internet, provided customers are confident in using whatever online commerce system the software vendor has selected for payment of the product.

For now, the system is largely being proved by software products that are offered for free, such as the trial versions of the Navigator Web browser, offered by Netscape, and the free Internet Explorer browser offered by Microsoft – although many vendors are just starting to move into the area of selling software via the Web.

All of this will only be successful, however, if users are happy to buy via the Internet – and that depends a great deal on how confident they are about its security.

WEB SOFTWARE

Virtual 3-D worlds

From facing page:

audio, video, animation and three-dimensional images to be combined in Web broadcasts.

Internet telephony and Web-based videoconferencing are two more examples of how small software companies are pioneering new Web applications. Both could become standard facilities in future Web browsers, but today they suffer from immature standards and the slow speed of many Internet connections.

"The bandwidth problem is not going to get better very quickly," admits John McKrea, a Silicon Graphics marketing director.

The US company wants to take the Web into a new era in which users can enter virtual worlds inside Web sites. Various VR technologies have been tried on the Web, but they were incompatible and required users to download special "plug-ins".

Limitations

"If you have to download the plug-in, this limits the audience," says Mr McKrea.

Last year, the VR industry drew up a new standard, called Virtual Reality Modelling Language 2.0, which allows animated 3-D worlds to be viewed even over today's slow Internet.

Silicon Graphics is working with Netscape to develop a VR player based on VRML 2.0 that will be included in the forthcoming Netscape Communicator.

Microsoft, too, has agree to include a VRML 2.0 player, from the US company, Intervista Software, in its IE 4.0 browser, so bringing virtual reality to millions of Web users for the first time.

BROADCASTING VIA THE WEB • By Geoffrey Wheelwright

Good news for radio addicts

For broadcasters, Internet radio technology is a low-cost way of boosting their audiences

Radio broadcasting has come to the World Wide Web in a big way. Using one of two popular software utilities that allow both 'live' radio and stored audio files to be played on PCs, users can listen to the growing number of radio stations all over the world that are sending their signals over the Internet.

Radio stations ranging from Vancouver to Bogota are now 'live' on the Net – for anyone with a reasonably-powered multimedia PC, modem, Internet access and World Wide Web browser.

The most popular way for Web users to access Net-based radio appears to be using Progressive Networks' RealAudio client-server software, which lets users select and playback audio or audio-based multimedia content on demand, in real time.

The real difference between RealAudio – and the Internet-based audio players, which came before it – is that RealAudio does not require users to download a complete, stored audio file before being able to play it. Instead, the file begins playing a few seconds after clicking on it – with the sound from the sound-file being played through the speakers as each byte of it is "streamed" to users' computers.

RealAudio lets you either listen to 'live' radio (which is not stored anywhere, because it is still being broadcast as it arrives at your computer) or to playback those streamed audio files and even be able to pick – via time-coding – the parts of the broadcast users want to hear.

Seattle-based Progressive Networks says that since its introduction last year, more than 7m RealAudio Players have been distributed with more than 25,000 being downloaded from the RealAudio Web site daily. Thousands of RealAudio Servers (which host the audio files or originate the broadcasts) are delivering audio and streaming multimedia content on the Web.

The system consists of the RealAudio Player, the software that lets Internet users to access audio for instant playback, and the RealAudio Server, which enables big 'media content' providers to distribute audio or audio-based multimedia streams over the Internet to a broad base of listeners.

A RealAudio Encoder, meanwhile, allows individuals to encode their audio programming for nearly any analogue or digital source.

The popularity of Internet broadcasting has encouraged Progressive Networks to launch a retail product. Known as RealAudio Player Plus, it is an enhanced version of the free RealAudio Player, designed to "make accessing audio on the Internet as simple as tuning a car radio". The RealAudio Player Plus, with a suggested retail price of \$29.99, is available for purchase via the Internet.

"With thousand of hours of live and pre-recorded programming broadcast in RealAudio each week on the Internet, the ability to access, organise and personalise usage has become essential," says Rob Glaser, chief executive of Progressive Networks. "The RealAudio Player Plus provides users with the most efficient way to locate, manage and instantly access RealAudio content worldwide."

The main competition to RealAudio comes from California-based Xing Technology's StreamWorks system – which also offers the ability to "stream" video files over the Internet. The company has a number of high-profile customers from the media world who use the StreamWorks technology to deliver broadcasts to the Internet. They include NBC, Reuters, Capitol Records and Telcom Finland.

The real question that many industry observers want to answer is: "Why bother?" After all, for decades it has been possible using radio technology to receive selected broadcasts from anywhere in the world on much cheaper devices than \$3,000 PCs, connected at premium rates to phone lines, so why would listeners want to bother?

The answer originates at the broadcaster's end. For many of them, using Internet radio technology is a fairly low-cost way of boosting their potential audience. And because those users, by definition, have enough money to buy an expensive device such as a PC, they are a good target for advertising. In addition, Web site technology allows the broadcasters to offer quite concrete evidence of the number of people who have "hit" the site and listened in.

According to John Ousby, financial controller at London-based Virgin Radio, there have been real advantages to being a UK pioneer in Internet radio broadcasting.

"Having a web presence is a very cost-effective way of extending and reinforcing a brand – it is especially appropriate for a company like ours which is global in outlook already," he says. "We feel we have added value to our service for our present terrestrial audience, and have introduced a whole new audience to Virgin Radio. The nature of the Web allows us to gain additional insights into the Virgin Radio audience and is a useful compliment to more traditional research tools."

In addition, many corporations are using this technology as a cheap way to get audio messages out to customers – with broadcasts from their CEOs, interviews with product developers and everything you might expect to hear in a radio "infomercial" – without the need to pay a radio station for air time.

MUSIC IN CYBERSPACE • By Geoffrey Wheelwright

Listeners can try before they buy on the Web

The record store 'listening post' has moved to the Web

Music lovers who remember quiet moments of musical discovery in the record stores of yesteryear will perhaps be comforted in the knowledge that today's Internet "listening posts" on the World Wide Web are aimed at exactly the same objective: selling more music.

Today, most of the music being sold is delivered on compact discs or cassettes – but in the bold, new world of cyberspace it is quite possible to "try before you buy". All the big record companies – including Warner Brothers, Sony Music and Arista Records – operate their own World Wide Web sites and allow potential buyers to listen, free of charge, to samples of their artists' work.

For example, on a recent day last month, you could set your World Wide Web browser to the "jukebox" at Warner Brothers music (*http: //www.wbr.com/jukebox/*) and have your pick of listening to the sounds of American pop music star Madonna singing *Don't Cry For Me, Argentina* (from the Evita movie soundtrack), Tom Petty's *Change the Locks*, REM's *ElectroLite*, and five others.

Meanwhile, popular Internet audio site AudioNet acts as the host page for tracks from artists with Arista Records and dozens of other smaller record labels – and in all cases, these are being provided as "streamed" audio, which begins playing immediately and does not require listeners to wait until a complete sound-file has been downloaded – it merely plays 'bits' of the sound file as they arrive over the Internet connections).

In most instances, the full version of a given song is played when it is requested at these various record company 'cyberspace listening posts' – giving music fans a chance to hear popular songs (often in full stereo) without having to buy any records.

Contrast

The sound quality over the Internet (particularly during peak times when a song may stop and start a few times as its associated sound file is being "streamed" to your PC) is nowhere as good as users get on the average CD player.

Soon, however, it will be – and when that time comes, it is not out of the question to think of music being sold and delivered entirely in digitally form over the Internet – with users able to decide for themselves where they want to store that song (on a hard disk, rewriteable CD-ROM, DVD disc or other storage device).

For now, the Internet serves as a great way for record companies to offer a taste of the latest products from all of their artists – without worrying about it being filtered through the "play list" of a radio station. CDs can be purchased via dozens of record companies that offer the electronic equivalent of catalogue shopping, but it is hard to say whether people will find much appeal in the idea of buying a CD through a Web page and then having to wait a few days until it is delivered before you actually get to hear it.

Unless there were huge savings over the cost of buying the CD in a shop, it would seem unlikely that this would have much appeal – particularl when "real-world" record shops are going out of their way to draw buyers in. Consider, for example, last year's opening of the first East Coast US Virgin Megastore in New York City's Times Square.

150,000 titles

Encompassing 75,000 sq ft. of 'designer' retail space on three levels, and located in the Bertelsmann Building (1540 Broadway between 45th and 46th streets), Virgin Megastore Times Square is claimed to be the largest music and entertainment store in the world. A \$15m project, Virgin Megastore includes more than 150,000 music titles on CD and cassette in 40 categories of music, a 12,000 sq ft. classical music section, featuring a concert piano and stage – and 1,000 listening stations and 100 video/laser viewing stations.

In addition, the Mega Store has a 'new media' area featuring multimedia demonstration stations, a broad selection of computer games and educational software and a books section.

It is clear from efforts such as this that the "record stores" of tomorrow will most likely succeed because they add a lot more to the experience of buying a CD than merely the chance to get it quickly and cheaply – *although* the Web could provide stiff competition for those that do.

'IT RELIEF' PROJECT • the UK's IT industry unites to raise money for worthy causes

Edging towards the target of £100,000

IT Relief, the IT industry's fund-raising initiative for Comic Relief, the charity that is linked with the national Red Nose Day in the UK, is now well on its way to raising £100,000, as sales continue to pour in for the Grand IT Relief Ball on Friday, March 14.

The challenge to raise £100,000 was made to the industry by the famous comedy duo Mel Smith and Griff Rhys Jones last June to John Cumming, managing director of OST (UK). The project was subsequently launched at the Networks 96 show.

Success

Ten months later, this 'mission impossible' has become a reality, thanks to the hard work and extraordinary persuasive powers of a small, dedicated team of industry figures.

March 14, which coincides with Comic Relief's Red Nose Day, will see the culmination of the IT Relief initiative when a host of IT companies will gather at a Grand Charity Ball, at London's Royal Lancaster Hotel, to celebrate the campaign's success.

"The enthusiasm and generosity of companies and individuals within the IT industry has been overwhelming", says Bob Jones, chairman of the IT Relief steering committee.

"To celebrate our achievements, we're planning a special night of entertainment and laughter which is open to all IT companies. So if you haven't yet booked a table, you should do so quickly – call the hoteline before it's too late"

Among the most recent companies reserving tables are IBM, Lotus and Cisco, thus swelling the funds to within a whisker of the £100,000 target.

Another boost came from the specialist audio-visual and production company, ATS Techniret, which will supply equipment for the ball at high discount.

These developments provide a timely boost to everyone involved with the initiative," says Birgitta Rönn, marketing communications manager at Newbridge Networks.

"The IT Relief Ball has quickly become an industry-wide event, thanks to the unbelievable response from companies up and down the country."

Last month, the IT Relief steering committee led by example and descended on the offices of Multimedia PRM in Chepstow for a telesales day, encouraging the industry to book more tables for the big event.

The sales team included Bob Jones (3Com), John Cuming (Newbridge), Barry Watts (Livingston Rentals), Fiona Gallagher (Sun), Nick Morse (Acotec), Simon Larter (Financial Times) and Barrie Desmond (Multimedia PRM).

Bob Jones, chairman of the steering committee, enthused: "It was great to get back to my roots in a dynamic sales environment. It is important that we show our commitment to this cause in an effort to get others involved."

Top salesman of the day was a close call, with Simon Larter just edging it from Barrie Watts. Fifty tables have been reserved so far: 10 are still available at £1,500.

Countdown to the big event: Birgitta Rönn, marketing and communications manager at Newbridge Networks; Barry Watts, European business development manager at Livingston Rental; and Fiona Gallagher, reseller partner, programs manager at Sun Microsystems

■ To reserve a table on Red Nose Day, March 14, call the IT Relief hotline: 0845 070 0800; or Multimedia PRM on 01291 626 200.

■ More information is available on the IT Relief web site at: www.it-relief.org.uk

Companies that care

Among the companies which have so far have pledged their support to IT Relief by reserving tables at the Grand Charity Ball on Friday, March 14, are: 3Com, Advanced Computer Communications, Ascend, Azlan, Bay Networks, Black Box, Cisco, CrossComm, Data Connectivity, Eicon, Elonex, EMAP, Energis, Fenwick Business Communications, Financial Times, Gandalf, Gems, IBM, Information Week, Just Media, Livingston, Logical, Lotus, Miller Freeman, Mindshare, Multimedia PRM, NetEvents/CTC Eurobase, Newbridge Networks, Oast, Royal Blue Technologies, Securicor 3Net, Silversands Computers, Smith & Jones Communications, Sun Microsystems, Sonic Old Boys, Teamworks, US Robotics.

TV comedy duo Mel Smith and Griff Rhys Jones: they gave the original challenge to the highly competitive IT industry

AN AWARD GOES GLOBAL • By Alan Stewart

Challenge issued to the world's top 'IT cities'

An international jury will evaluate 500 projects in the next round of the 'Bangemann Challenge'

Following the success of the recent competition to find the most innovative IT projects in 25 cities across Europe, a new global challenge has been issued to the world's leading cities.

The Bangemann Challenge originated in Sweden where its capital city, Stockholm, issued a friendly challenge to other European towns and cities to show how innovative they were in developing IT projects.

"Now, the best European IT projects are ready to compete with comparable projects in the US and south-east Asia," said the Mats Hulth, mayor of Stockholm at the recent ceremony when the King Carl XVI Gustaf of Sweden presented awards to project leaders of eleven of the 25 cities taking part in the first Bangemann Challenge.

The basis for the competition was EU Commissioner Martin Bangemann's report, *Europe and the Global Information Society*, says Jörgen Kleist, project manager for the challenge. "It set out to highlight existing IT projects, which were evaluated by an international jury, looking for clear benefits to the community."

Mayor Hulth says that increased collaboration across national borders contributes to the acceleration of technological development – "it's a way of helping to improve living and working conditions for all Europeans".

Whether teleworking improves living conditions, is open to question. The Ile de France Region – which includes Paris – says it plans to open 80 neighbourhood offices in the suburbs within five years. The region won the teleworking award for what the jury calls "the considerable positive effect it may have on other large European cities as a demonstration project".

The wide acceptance of the Internet has encouraged the spread of 'distance learning'. This category has three winners: Antwerp's 'Smart' flexible staff training scheme, Barcelona's 'virtual campus' of the Universitat Oberta de Catalunya, and Stockholm's Sofia School with 200 Swedish upper-school children, linked electronically in 30 countries. As the school says, "Up the Amazon, it's hard to get enough children together to start a Swedish class."

Innovative projects of today and tomorrow require high-speed networks. The award for university networks was made to Edinburgh's 'Eastman' project, linking universities and hospitals to the 'SuperJanet' academic network and the Internet. Video-on-demand, conferencing, teaching and self-paced learning will be part of the package, say leaders of the Eastman team.

The 'paperless office' may remain a dream, but Antwerp's trans-border electronic data interchange project, 'Edigo', and Manchester's multimedia network shared the award for telematics for small and medium-sized enterprises for "providing integrated services for small businesses based on local user-needs".

With the volume of traffic on European roads constantly increasing, several cities are applying technology to create even flows of traffic. The road traffic management award was won by Rotterdam's 'Telering' project, because it had "a very good infrastructure and is well-focused to inform a great number of motorists".

The German city of Bremen received the award for air traffic control for its value-added network that carries radar aircraft position data and flight plan information for Deutsche Flugsicherung, responsible for air traffic in Germany. The jury were pleased that "European harmonisation and integration of different air traffic networks is foreseen for the future".

The healthcare award was shared by Stockholm's 'Bedside' project, where medical staff use computers in ward-care, and Edinburgh's 'Mams' project, with midwives using portable equipment online to hospital databases. The jury praised the projects for respectively "creating a high-quality service level for the patient" and "a new concept of maternity care in the community".

'Stelha', Stockholm's winning electronic tendering project, enables large-scale purchasing and ordering in a pilot running at a nursing home, three schools, and a local council. The jury believe such systems "will have a big impact on making the public sector more efficient, as well as companies selling to it".

In the category of public administration, the jury felt Bologna's 'Iperbole' project demonstrated "the Italian city's willingness to provide tools enabling citizens to become active in the information society", while its co-winner – Manchester's Electronic Village Hall Network – gave "an example of how we offer local disadvantaged communities equal opportunities".

The city information highways award was also shared: Antwerp merited the prize, "for setting up a metropolitan area network with several advanced applications," said the jury. The community information service in Edinburgh's Craigmillar housing estate was commended for "its distinguished contribution to enabling ordinary people to participate in the information society".

Three special awards for "contributions towards a more socially-integrated society" were made to Amsterdam, Barcelona and the south London borough of Lewisham for public administration projects which aim to bring information and dialogue with politicians closer to the people, including the disadvantaged.

Now that the European competition is over, a new challenge has been issued to the world's leading cities. "The best European IT projects are ready to compete with comparable projects in the US and south-east Asia," says Stockholm's Mayor Hulth.

Following the European challenge, the new global challenge is still in the planning stage: "We are going to work together with some of the cities from the European competition," says Gunilla Partenius Olsson, project manager for the Global Bangemann Challenge.

"We've had extremely good 'networking' in all this, and we don't want to lose this momentum."

The main competition themes are:
- ☐ Improving the business environment.
- ☐ Investing in the future.
- ☐ 'People at the centre' of IT projects.
- ☐ 'Meeting the global challenge'.

Officials in Stockholm hope that at least 100 cities will enter around 500 projects. Ms Partenius Olsson favours flexibility "to avoid excluding projects that do not quite fit into rigidly pre-defined categories".

How will Europe fare in competition with the US, Japan, and Singapore, for example?

"We are at the same stage, but in different ways," observes Ms Partenius Olsson, with a smile. "Our goals for the Global Challenge are to share knowledge and information, and stimulate worldwide networking. It's very important to have good contacts between cities to make a better world."

More information on the Bangemann Challenge can be found on the World Wide Web at http://www.stockholm.se

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POLITICS ON THE INTERNET • By George Black

The road to digital democracy

The US still leads the way in putting politics on the Internet, but UK politicians, too, see it increasingly as a key channel of communication

The Internet is rapidly becoming a primary channel of communication for political activity around the world. Governments, too, are increasingly using the Internet to distribute information.

In the UK, the forthcoming General Election is the country's first in which the Internet is playing a significant part.

If the US experience in its presidential election last year is anything to go by, the Net helped to change the nature of the campaign for both politicians and public.

The US media set up a few very large election sites with thousands of pages of information – much more detailed than could be obtained through their newspapers and television and radio stations.

There were also masses of smaller sites dealing with virtually every aspect of politics and catering for a much wider range of opinions than older-established media.

Around 8 per cent of the US population consulted these sites to try to gain a better understanding of key issues – and to air their personal views.

Broadcaster CBS News says that its web site won it a new and younger audience. Politicians used the Internet not only to try to win votes, but also, successfully, for fund-raising.

In the US, Oregon-based 'Project Vote Smart', an impartial and electronic way of lifting the lid on the often confusing world of politics, was set up five years ago by the Center for National Independence in Politics.

Its web home page (*www.votesmart.org*) describes itself as "a voter's self-defense system" and provides details of the voting records of members of congress, as well as outlining their positions on major issues.

In the UK, the uses of the Internet may differ, but the new medium will certainly also change the way things are done. Newspapers and media organisations are setting up election web sites while political parties have also added the Internet to the communications channels which they consider essential.

Up to now UK, politicians – unlike their counterparts in the US – have been relatively slow to adopt the new communications medium. Fewer than forty even have e-mail addresses, but the 1997 election could well persuade many UK candidates to change their attitudes, as the Internet offers them a highly responsive means of judging public opinion.

Conservative Central Office is helping its party candidates and constituency associations to set up web pages and publish press releases. It has been campaigning on its own site, (*www.conservative-party.org.uk*), co-ordinating its presentations there with posters and multimedia techniques which it sees as more powerful than plain text.

Meanwhile, the Labour Party (*www.labour.org.uk*) says it plans to update its Internet site at least daily during the election campaign, with the latest campaign information and details of the day's events.

It got off to a bad start when security on its Internet site was breached by a hacker who embarrassingly re-wrote bits of the party's agenda, but a Labour spokesperson says that problem was quickly fixed – "and there would be no repetition".

New Labour hopes its site will enable it to reach young voters who might not be responsive to other media. But the Internet is not the only – or necessarily the best way – to reach young people, the party says. It is also using CD-Roms carrying its manifesto pledges, copies of which have been distributed free to schools and youth organisations. It claims to have been the only UK party to have used this approach.

The Liberal Democrats (*www.libdems.org.uk*) say the Internet will be a key channel for them as the network's users are mostly the young and professional people who are their prime target.

Its web site designer, former party speechwriter, Mr Charles Cohen, of Thought Interactive, says the party will be putting up new pages for the election.

The site will enable people to find out about their local candidates simply by inputting their post code and it will encourage them to contact their local Liberal Democrat candidate by e-mail.

All Lib Dem MPs are on e-mail; the party leader, Mr Paddy Ashdown, who is "keen on all things technological", claims to have replied to all his e-mails personally – *so far*.

New forum

Web design company Online Magic have put together an excellent election overview site (*www.ge97.co.uk*), with links to the web sites of all the parties, including the Monster Raving Loony Party (*www.raving-loony.pv.org*), while a politicians' forum on the Internet was recently launched by UK Citizens Online Democracy, a non-profit organisation backed by the Joseph Rowntree Charitable Trust, which aims to promote public participation in government.

In the forum, candidates are to discuss key policy issues online between themselves, as in the House of Commons, but without the moderating influence of the Speaker, Ms Betty Boothroyd.

The public can observe, but cannot intervene – "this format proved very popular in the US election," says the project director Mr Irving Rappeport.

However, the use of the Internet as a channel for dialogue is limited by the extent to which politicians are willing to participate – and, in particular, to reply to – electronic mail messages.

Labour MP Anne Campbell, whose Cambridge constituency is one of the country's most technologically sophisticated, was the first British MP to conduct an online constituency surgery.

"Digital democracy won't happen unless politicians learn to reply," argues Ms Kate Goldberg, an official of the US media pressure group, the Freedom Forum (*www.freedomforum.org*).

In other countries, however, governments are less concerned with encouraging electronic debate than attempting to exercise some degree of control over the Internet's anarchic and unregulated nature.

Singapore, for example, introduced new rules last summer which it said were aimed at protecting the national interest and shielding children from objectionable material. Internet operators were required to register with the state broadcasting authority, a government body; while any organisation putting locally-produced religious or political material on the web would require government approval.

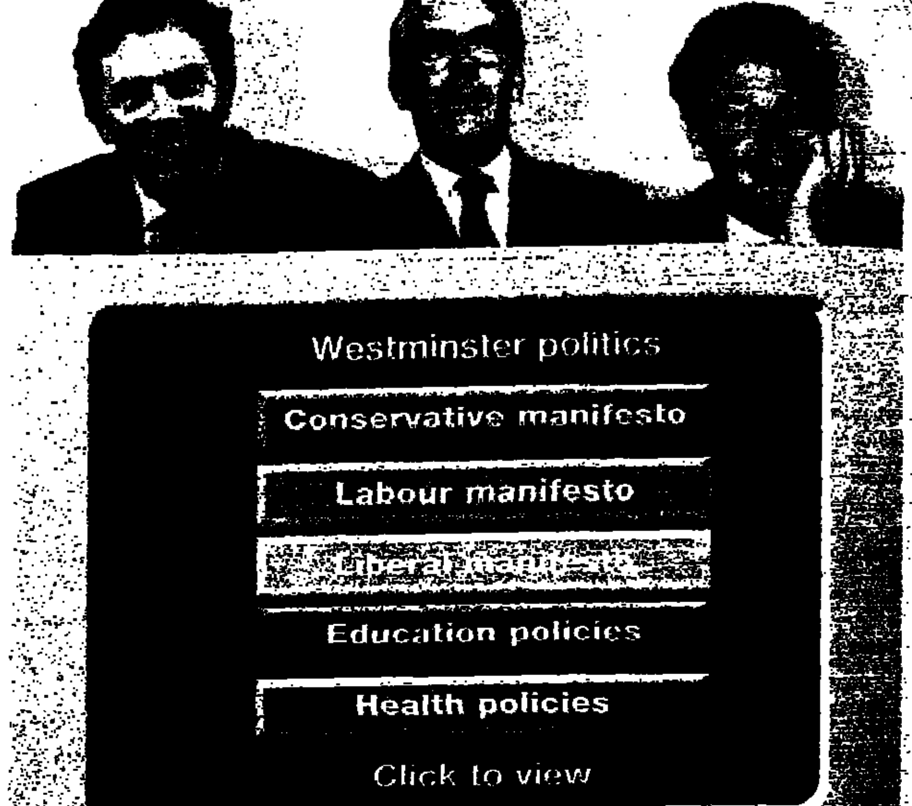
Even at the local level in Britain, however, the Internet is well along the road to becoming a political battlefield.

Several local councils in the UK have set up sites, not only to inform people of what is going on in their areas but also to stimulate political interaction.

Local authorities now invite online suggestions and comments on the management of their budgets, what services people want to be provided and what they would be willing to pay for them. This has prompted a response by their opponents.

For example, the Labour-controlled London Borough of Croydon invited such comments last year and had more than 100 e-mail responses. It was criticised by the deputy leader of the Conservative opposition, Mr Andrew Pelling, for "presenting the subject in a slanted way".

He says the council gave too little detail of its tax plans and blamed central government for giving it an unfairly low grant – so he set up his own web page "to put the other side of the story".



Themes in the coming months

Here are the main themes for the FT Review of Information Technology for rest of 1997.

APRIL 2, 1997
Main focus: IT in Defence.
Software theme: Groupware and the Intranet.
New directions: Systems Security.
International focus: IT in Israel

MAY 7, 1997
Main focus: Mobile Computing.
Software theme: Managing Information.
New directions: Virtual Reality.
Investment focus: Venture Capital for IT

JUNE 4, 1997
Main focus: Enterprise Computing.
Software theme: Database Systems.
New directions: Smartcard Applications.
Plus magazine: 'Doing Business Online' – focus on finance. (The next issue of the Online Magazine, in November, will focus on retailing and electronic commerce).

JULY 2, 1997
Main focus: IT in Banking and Finance.
Software theme: Accounting Packages.
August: no publication.

SEPTEMBER 3, 1997
Main focus: IT in Retailing.
Software theme: Personal Productivity.

OCTOBER 1, 1997
Main focus: Computers in Manufacturing.
Software theme: New Software Development.

NOVEMBER 5, 1997
Main focus: Technology in the Office.
Software theme: Sales and Marketing.
Plus Magazine: 'Doing Business Online' with special focus on retailing and electronic commerce

DECEMBER 3, 1997
Main focus: IT in Home and Smaller Business.
Software theme: Local Government Systems.

For details of forthcoming issues, UK callers may use the FT-IT Fax-U-Back Service. Details include editorial synopses of future issues and writers for various themes. The fax number to call is: 0990 209 903.
Callers from outside UK should add their country exit code plus country entry code (44 for UK), omitting the initial zero. You may call up up the Fax-U-Back service via your fax machine's handset, or, if using a keypad, set the fax machine into polling mode; also ensure your fax machine is set to touch-tone dialling.
If your machine cannot receive the service, please send a fax request direct to Suzannah Parsons at the FT in London on (0)171-873-3197. For further details about the FT-IT Review, see the information panel on Page Two of this current issue.

CASE STUDY: Savacentre and SAS Software • By George Black

Hypermarket improves its direct marketing

The superstore's new data warehouse system helps to break down internal barriers

Savacentre, the hypermarket chain of J Sainsbury, the UK food retailer, has built a data warehouse which has enabled it to improve its direct marketing.

The system serving the company's 12 stores around the country is based on an IBM RS/6000 SP mid-range machine running SAS Institute software.

In 1995, the company was planning to develop two separate systems for managing its home and leisure goods and for general customer information. Realising there was a lot of overlap between the two, systems development manager Mr Bob Jones decided to merge them and create a single source of data capable of serving other systems in the future.

"We did not think of it at the time as building a data warehouse, but that was what it became. The users would want to look at the data in many different ways but it would be the same raw material. This would avoid keeping data in a lot of different places."

The Amdahl mainframe which held much of the information required could not deliver it quickly enough. Marketing staff had not had a computer system but had relied on external agencies to process information for them, which was also too slow.

Savacentre check-outs by NCR are linked to a data warehouse to decipher complex sales patterns across the hypermarket chain

Database

The company was awaiting the outcome of a trial of the Oracle relational database by J Sainsbury which could lead to that software becoming a company standard. The SAS software would serve as a database at first and could continue as the front-end, if a relational database was eventually adopted.

Mr Jones believed that although the software could handle as many users as necessary – he anticipated around 100 – it might not support more than 40 gigabytes of data without needing a relational database. At present, the data warehouse has only 15-20 gigabytes, but it is expected to reach 300 gigabytes in around a year.

Jones is "keeping a wary eye" on the system's performance, balancing the level of detail and the response time. Simple queries are answered in a few seconds, more complex ones in 10-15 minutes. He does not want the wait to get any longer.

SAS was not the best tool for any of the functions required, he says, but was the best overall. "Some products were very strong in some aspects and very weak in others. SAS was second or third best in every area."

It was preferred to Holistic Systems' Holos (now owned by Seagate) and Planning Sciences' Gentia which were both considered excellent for some uses. Buying the best for each type of user would have been too expensive, both in the cost of the software and in the duplication of training and support.

The applications were installed by October last year and are now used by 80 people. Data is mirrored from the mainframe transaction processing systems to the RS/6000 where it can be interrogated immediately by the users.

"We have done a series of mailshots, using data warehouse information gathered from loyalty cards," says Mr Jones.

"In late summer we were able to mailshot customers with a back-to-school clothing offer. When a competitor opened a store close to one of our own, we were able to mailshot customers to persuade them not to go over to that store. We expect to get better at targeting the right people as we learn more from the system."

The data warehouse has helped to break down internal barriers. At first the project was driven by the systems department, but now marketing staff are coming up with their own ideas for how to use the system. Word has spread. Now the food buyers are asking if they can come on to the system to help them analyse sales trends.

New benefits for NatWest

From previous page:

able and can 'grow into it'. They are finding things to do which they had never anticipated. For instance, after we were alerted to a fraud, we used the database to identify £3m of suspicious drafts."

NatWest carried out a survey of users before and after implementation – "this showed an 80 per cent increase in user-satisfaction in management information systems, from being dissatisfied to being almost delighted, in one year," says Mr Doherty.

"A data warehouse architecture gives people the confidence to make decisions. They can't hide behind lack of information and we are making more and better decisions now."

"Part of the BPR exercise is to change the way we interface with customers, so we can identify different customer types and model the impact of a tariff change," he explains. "It has driven our delivery strategy.

"I think that implementing a data warehouse has to be 'an act of faith', because it is hard to justify using tangible benefits.

"However, our organisation had faith that management information *would* deliver benefits. You cannot fail to make money out of this sort of management information."

WORLD ICT MARKETS • By Paul Taylor

US and Asia set the pace

The information and communications technology market is growing faster than the European economy

The western European information and communications technology market grew by 7.2 per cent to Ecu 315bn ($362bn or £224bn) last year, according to figures prepared by International Data Corporation and the Frankfurt-based European Information Technology Observatory.

The IT portion of the market grew by 6.6 per cent to Ecu 148bn while the telecommunications equipment and services accounted for the remaining Ecu 167bn, a 7.9 per cent increase.

Although market growth in information and communications technology (ICT) outpaced growth of the overall economy, the 1997 EITO report notes it slowed again from previous years.

As a result, Europe's share of the Ecu 1,102bn ($1,267.9bn) worldwide market fell to 28.7 per cent from 30.3 per cent the previous year.

In contrast, the US ICT market grew by 9.8 per cent to Ecu 238bn ($258.75bn) – the fifth consecutive year of growth. However, the strongest growth came from the four Asian tiger economies – South Korea, Taiwan, Hong Kong and Singapore – with combined market growth of 18.6 per cent in IT and 7.2 per cent in telecommunications.

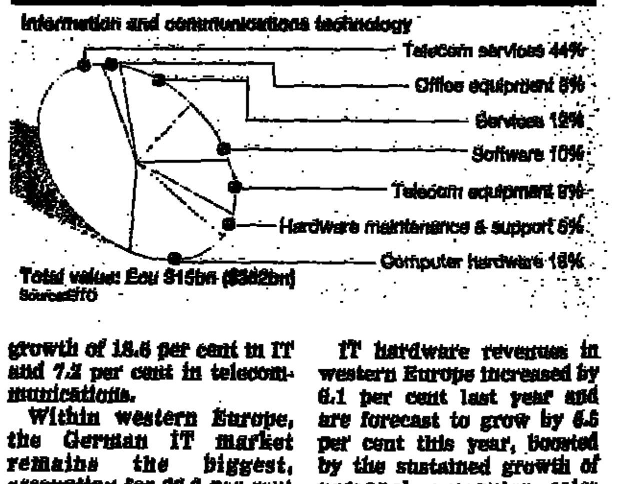
Within western Europe, the German IT market remains the biggest, accounting for 26.8 per cent of the Ecu 148bn total, or Ecu 40bn – a 5.7 per cent increase. France was the second largest (Ecu 26bn), followed by the UK Ecu 23bn ($16.36bn)

IT hardware revenues in western Europe increased by 6.1 per cent last year and are forecast to grow by 6.6 per cent this year, boosted by the sustained growth of personal computer sales which accounted for 38.6 per cent of the total.

EITO 1997 report, available from Eurobit in Frankfurt; tel. 069/6603-1530, fax 069/6603-1510

Western European market

Information and communications technology



Total value: Ecu 315bn ($362bn)
Source: EITO

CeBIT '97 • Hannover preview

Exhibitors from 70 nations

More than 6,800 exhibitors from the information and communication technology (ICT) industries will be taking part in this month's CeBIT '97 show, claimed to be the world's largest exhibition for computer-related industries

The seven-day event in Hannover, Germany, from Thursday March 13 to Wednesday March 19 will feature 2,805 software exhibitors, 1,280 from the IT sector, 861 in telecommunications, 364 in network computing and 408 in consulting and services.

Large displays also cover computer-integrated manufacturing, automatic data capture, office and banking technology, security equipment, research and technology transfer.

In the News Net '97 display, exhibitors will focus on the latest developments in intranets and network-based systems.

The IT arena features data processing systems, computer components, peripherals, accessories and multimedia hardware. Internet-related products and services will be a key theme on many displays.

Reflecting the international scope of this year's record-breaking CeBIT event, there will be exhibitors from more than 70 countries.

Companies taking part range from the US, 491; Taiwan, 386; the UK, 282; France, 124; Switzerland, 118; the Netherlands, 102; Israel, 76; Hong Kong, 64; Australia, 91; Canada, 56; Russia, 52; Denmark, 35; Japan, 31; Malaysia, 20; and India, 23.

More details on the event are available from Deutsche Messe in Hannover, telephone (0)511 89-0, fax (0)511 893 2630; or via the Internet on http://www.messe.de

THE DIGITAL FUTURE

A whirlwind of change

Continued from page one:

"Information will become an extremely important strategic and competitive weapon, and a deciding factor between business success or failure," says IBM's Mr Kircher. "Access, usage, and exploitation of data, for example by using data mining technologies, create completely new business opportunities and competitive advantages. Increasingly, computers will be used for optimising business processes."

"In the 21st century, information technology industries will drive economic wealth," says Price Waterhouse in its Technology Forecast. "The innovations developed by the computing, telecommunications, consumer electronics and electronic media industries will affect every business, large and small, and dramatically change people's lives as well."

As digital technologies transform the nature of business, government and society, it is likely that the traditional definitions of computing devices will also need to change. "Computers will become so unobtrusive that they will hardly be thought of as 'computers' ", says IBM's Kircher. "Speech and signature-recognition, translation, and even human gestures will be part of the interface between man and machine and will make computing as easy as sending a fax."

As Peter Leyden notes in the book, *On the Edge of the Digital Age*, "we are living through an extraordinary moment in human history. Historians will look back on our times, the 40-year span between 1980 and 2020, and classify it among the handful of historical moments when humans re-organised their civilisation around a new tool, a new idea ... the mid-1990s, perhaps even 1995, may come to be viewed as the defining moment when society recognised the enormity of the changes taking place and began to re-orientate itself".

DATA WAREHOUSING • By Rod Newing

Think big, act small

Attempts to reduce the cost of implementing a data warehouse system could backfire if business organisations lose sight of the basic principles

The average three-year return on investment on data warehouse architecture is 401 per cent, based on an average investment of $2.2m, according to a recent research paper from International Data Corporation, entitled *Foundations of Wisdom*.

These returns are impressive, but the high investment required is a source of significant concern. However, the biggest cost is not the hardware or the software. According to John Coveney, a director at Price Waterhouse Management Consulting, "60 per cent of the cost of a data warehouse is 'cleansing' and loading the data, predominantly from disparate mainframe systems".

The use of data warehousing has captured the business imagination in an age where use of information can bring competitive advantage, with institutions such as NatWest, the clearing bank, viewing information management as a core competency.

A data warehouse architecture consists of a separate database of subject-oriented integrated historical data, dedicated to decision-support.

In a classic architecture, subsets of relevant data, often summarised, are transferred to separate smaller departmental "datamarts," which can be relational or multi-dimensional databases. End-users can access these datamarts using a wide range of software tools to analyse and manipulate the data *(see report below)*.

This facility generates competitive advantage because 80 per cent of warehouses are customer-oriented, enabling segmentation, behaviour analysis, shopping basket analysis, micromarketing, customer 'intimacy', mass-customisation and many more powerful marketing techniques.

Many practitioners have argued that the best approach to implementing a data warehouse is to create a small prototype, focused on solving a specific problem, at low cost to identify benefits, before implementing a full warehouse. Confusingly, these are often referred to as "datamarts," not "prototypes."

Vendors, looking to establish the concept of data warehousing, are encouraging these smaller warehouses, especially by marketing "instant warehouse" packages of software and services. However, this is creating the very real danger that organisations are creating separate departmental data warehouses. This is cheaper than integrating data enterprise-wide, but misses the point of a data warehouse by failing to provide a single source of truth through enterprise-wide integrated data.

"They are offering a fragmented point solution, which relieves the symptoms, but not the cause of the illness," says Sean Kelly, founder of the Data Warehouse Network, a specialist consultancy, and author of *Data Warehousing – the route to Mass Customisation; (Wiley, ISBN 0-471-95082-3)*.

"It's appealing, because the real intellectual effort of data integration is onerous and unattractive. You need an enterprise framework for data integration and vendors with extensive experience of constructing data warehouses, such as SAS, IBM and NCR, to offer a such a solution."

The IDC report shows that the return on investment from an independent data warehouse or data mart is 533 per cent. Although this is much higher than a full-scale data warehouse, it is because the organisations still have to invest in more rigorous and costly data definition processes required in order to provide enterprise-wide integration of data.

In a recent evaluation of data warehouse products, the market analysts, Ovum *(http: //www.ovum.com)*, predicted the development of a federated data warehouse architecture, consisting of ubiquitous and inter-connected datamarts of manageable size.

"As long as you build and define them to be mutually compatible, you can view and access them in a virtual data warehouse," says Philip Carnelli, one of the report's authors.

Another development on the horizon is the transformation of relational databases into object-relational databases, able to store a wide variety of data types. This will allow richer data types to be stored, manipulated and mined in the warehouse.

Data warehousing has evolved as a solution to disparate mainframe transaction processing systems. However, the use of integrated client/server packaged software, such as SAP, Oracle and Peoplesoft, will allow organisations to create a data warehouse for a more realistic cost.

In order to provide effective business processes, the data should already be integrated at transactional level in the operational systems, considerably reducing the cost of data cleansing and transfer.

The entry of Microsoft into the data warehouse market will give a big boost to data warehousing for medium-sized companies. Not only will they bring lower software pricing, but they are working with a number of specialist vendors to reduce the associated cost of building and maintaining a warehouse built with SQL Server, their relational database.

Hopefully, Microsoft's mass-marketing approach to data warehousing will raise much-needed awareness to the business community.

A total of 400 managers in the Times' newspapers 'Top 1,000' companies were contacted during the course of research, recently commissioned by Cognos and VMARK, two pioneering data warehouse vendors. However, 300 were unable to respond due to lack of knowledge and 67 per cent of those who did respond, including 60 per cent of IT specialists and 75 per cent of end-users, admitted to having a relatively limited knowledge.

Interestingly, in a survey carried out in connection with the 'DB World' event in London, 62 per cent of respondents said they had a data warehouse or are planning or considering one.

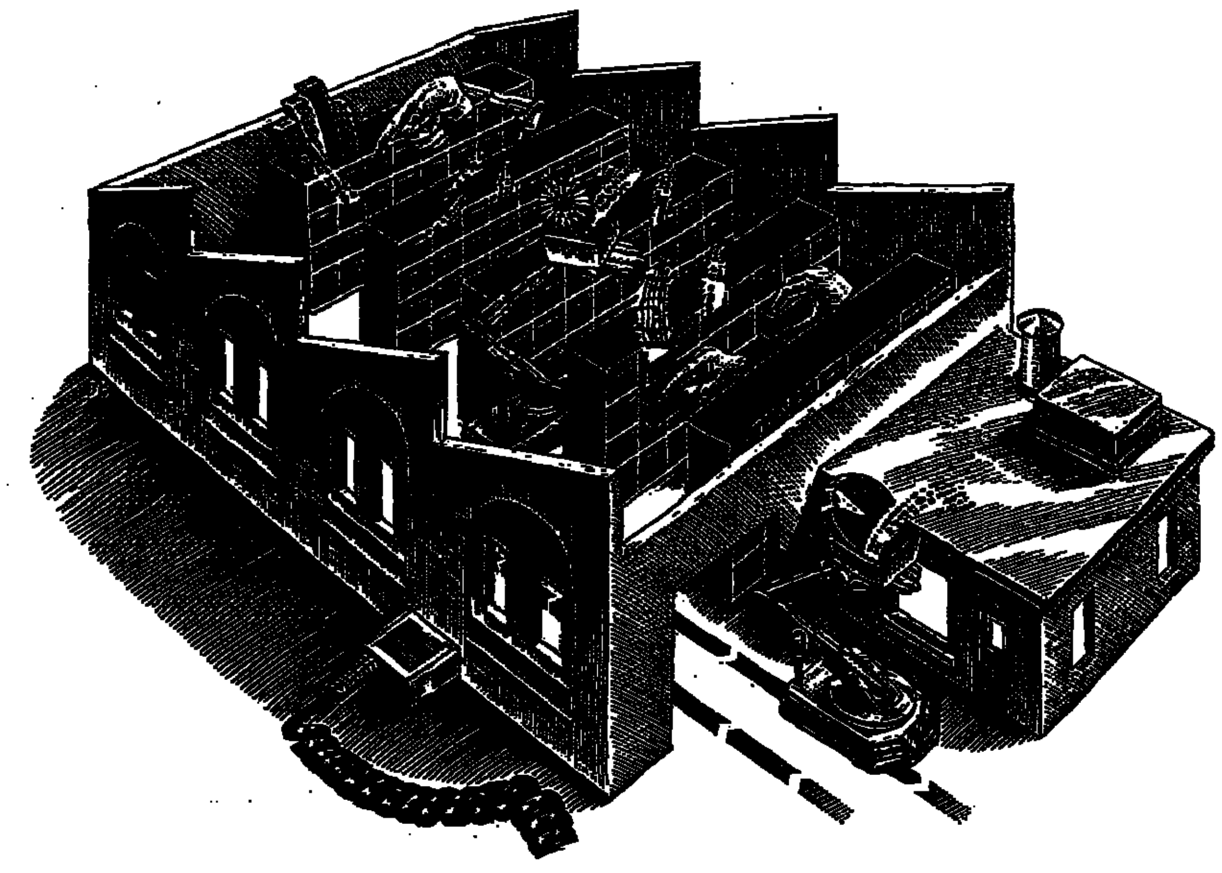
This was not a random survey, but involved 700 responses to a widely circulated questionnaire, suggesting that once business people are aware of the technology, they can see benefits to their organisations.

It is important that organisations embarking on any data warehousing application have a good understanding of the fundamental concepts of data warehousing and apply them as part of an enterprise-wide information strategy.

Short-term compromises may save costs in the first instance, but could deny the organisation the full benefits of a single source of integrated, advises Mr Kelly.

If organisations take that advice, there are big returns available. Thomas Blischok, of Coopers & Lybrand Consultantcy, promises clients a minimum 6:1 return on investments across all industries.

The warehouse must be used as a transformation tool to drive fundamental change towards innovation, based on knowledge, he says. "In times of intense competition and change, whist the others are equipped to live in a world which no longer exists, it is the learners who will inherit the future."



Data warehouses give details of customers' purchasing trends, opening the way for many powerful marketing techniques

DATA DELIVERY TOOLS • By George Black

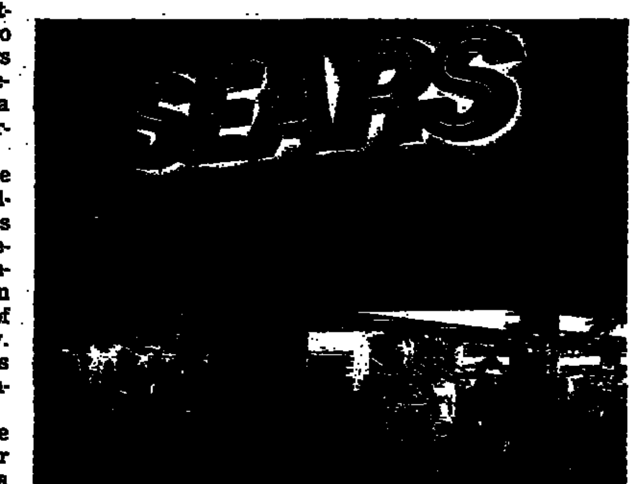
Better ways to keep managers informed

New software provides rapid answers in ordinary business terms, not complex computer language

Sales of query tools software have begun to rise sharply, as users realise that a data warehouse is nothing without a means of accessing the information store.

An informal survey by one of the top tools vendors indicates that organisations presently using data warehouses will treble the number of people accessing them this year to an average of around 300 per company. Some of the largest systems will soon run to many thousands of users.

At the same time, the amount of data available for these users to search in a data warehouse will quadruple to an average of around 80 gigabytes. Another vendor expects several data warehouses in the UK to rise above one terabyte this year, following the pattern of the US.



Sears Roebuck, the US department store chain, built a data warehouse, using NCR technology, to change its culture in the face of big structural changes in the market. Sears can now track sales by individual item and rapidly adjust its purchasing and marketing strategies to gain competitive edge

The adoption of query tools should increase proportionately. User organisations are extending licence agreements to cover more people as the software proves more popular than they had expected.

Growth in the tools market is also being stimulated by the efforts of vendors to reduce the cost of entry into data warehousing by selling cut-down "data marts".

Many companies began to use data warehouses in a small way, including a narrow area of data in one or two departments. Now more are becoming persuaded of the benefits and are apparently planning to extend greatly the use of such systems. Uptake has spread to include users in most of the departments of an organisation.

Sales and marketing departments and product and brand managers are among those groups of people who are increasingly taking on the tools to help them do their jobs.

Today less than 20 per cent of people in most user organisations have query tools. But according to a survey by Soundview Financial Group in the US, more than 40 per cent will do so by 2000, with around a third of companies having 60 per cent or more of the staff as users.

The new access software may be described by many different names – user query tools, report writers, online analytical processing (Olap), data mining, data visualisation and others.

All of these types of software may be used to retrieve information from a data warehouse to allow managers to get more information more quickly, to get more reliable information and therefore to make better-informed decisions. It should enable them to find new markets, understand customers better and become more competitive.

Earlier executive information systems (EIS) were designed to provide summary information for senior managers working on a small amount of data. They could not be adapted for a wide range of users without a lot of work by technical experts and their ability to analyse data was generally limited.

Often they could not handle ad hoc queries, so that managers might still have to wade through a dense production report from the computer department in order to find the answer required.

The latest tools should get over those problems.

The new tools are increasingly able to handle queries put to them in ordinary business language, rather than a special computer language, and to return an answer in the same sort of terms. The aim of data warehousing is that anyone who can handle a mouse and can use the Microsoft Windows interface can get meaningful information from anywhere in the company.

The value of query tools is often in saving time in data gathering, which then allows more time for the more valuable task of data analysis.

Often people can gather data which would otherwise remain obscure. In some cases these tools are having a radical impact on the business as they enable the management to get a clear overview of how it is performing, perhaps for the first time.

The French company, Business Objects, is widely regarded as the leader in this field with its product of the same name, though it is being challenged by several others, including Cognos with its Impromptu product and Software AG with Speedware's Esperant.

Business Objects spread rapidly, based on its high reputation among users, even though the company is still relatively small compared to its main competitors. The leaders are developing wider functionality for their products to consolidate their positions and fend-off new entrants.

To get the right tool for the type of data warehouse being constructed is a matter of finding one which fits the intended number of concurrent users, the degree of complexity of queries and the volume of data.

Some products may not scale above 40 users or 50 gigabytes of data. Conversely, some may be over-elaborate for smaller systems.

There are now enough reference sites available for buyers to be able to research these issues thoroughly.

The payback should come over several years, partly in the form of reduced cost of supporting users by the computer department. But as Mr Charles Nicholls, marketing director of Business Objects, says: "Most companies don't do it to save money: they do it to get better value out of their information."

Mr David Bearne, director of operations for Olap vendor, Information Advantage, points out that the benefit may be in what the users *avoid* doing as a result: "If the software prevents you mailing to a large number of people who would not be interested in your product, it pays for itself in that way."

It will be interesting to track the correlation between investment in data warehousing technology and business performance.

■ CASE STUDY: Natwest Bank • By Rod Newing

Surprising discoveries

After performance problems with large databases, NatWest built a small-scale data warehouse at low cost – and is 'delighted' with the results

Two years ago, NatWest UK's international trade and banking services division carried out a business process re-engineering project, with the aim of increasing market share.

As part of this exercise, a two-page document was produced which outlined the customer and product management information needs of the streamlined organisation.

Mr Simon Doherty, who already had experience using a data warehouse architecture within NatWest, was brought in as head of planning and resources to provide this information.

"The business people said they really wanted a 'Starship Enterprise' solution," he recalls. Changing the metaphor he adds: "The result should be more of a Volkswagen than a Rolls Royce.

"The biggest expense in implementation is going into operational systems to get data. If you are *too* selective, you have to go back for more, so we chose to ignore requirements' studies."

Together with IT, business and finance staff, he went through the data dictionary and picked out interesting fields. "It isn't rocket science: with the right mix of skills, you can just tell what looks interesting," he says.

The business wanted low-cost hardware, so they purchased three Compaq Proliant database servers, each with four Pentium processors. Two of them each ran a management information application database ('datamart'), located in the head office, and the underlying data repository was located at the NatWest data centre.

All three servers run Microsoft's SQL Server relational database. The data centre staff built 'feeds' from the old mainframe systems into the data repository.

"When it came to giving end-users access to the data, we wanted something he could give out to people and then let them get on with," says Doherty.

"We evaluated two products and users preferred Business Objects. We have also developed supplementary front-end applications using Microsoft Visual Basic and Seagate Crystal Reports."

Having started in May, data was collected from October 1, the first user-access was in December and all 40 users were trained by the end of January, 1996 – "we spent under £1m, but the biggest cost of development was information," says Doherty.

"The cost of hardware was £250,000 and software is pretty negligible because SQL Server is 'dirt cheap', as is a licence for 40 Business Objects users."

Approximately 24,000 queries have been run in the first twelve months and the database totals 14GB. "Before, the issue was getting data, now it is *understanding* it," says Doherty. "Users are delighted by the range of information avail-

□ Continued on next page.
□ How Sainsbury's Savacentre improved direct marketing with a data warehouse: see next page.

Part of Natwest's BPR exercise was to further improve the way the bank interfaced with its customers

CASE STUDY: Focus on PPP Healthcare • By George Black

Energy and common sense was the key

The cost of a £1m data warehouse was recouped in the first year

PPP Healthcare, one of the UK's leading healthcare service providers, has cut its operating costs substantially through a data warehousing system.

In 1995 the company decided that its IBM mainframe was not capable of providing the information it needed fast enough to run the business efficiently.

"We had to have a new way of doing things, so we looked around for a technology partner to help us do it," says Mr Malcolm Lambell, director of information technology.

"We believed that the new system would have to be based on a client/server architecture, with a Unix machine as the server. We had no client/server or Unix skills in-house, so we had to go outside and look for them. After interviewing several, we chose Sequent as a leading Unix vendor to be our partner."

With the mainframe, getting an answer to a query could involve a team of programmers writing a new application, a process which could take several months. What was wanted was a system which business users could interrogate for themselves and get an answer in minutes or hours.

Sequent held a number of workshops with senior business users to discuss the improvements in information delivery which were sought. This was followed by a 12-week prototyping programme, which demonstrated what could be achieved.

The next five months were taken up with loading data from the mainframe on to the Sequent machine and the system went live at the beginning of 1996.

The data warehouse, based at the company's headquarters in Tunbridge Wells, Kent, runs on a Sequent Symmetry server with an Oracle relational database and a Business Objects front end.

"The key to getting the technology right is in the design of the database," says Mr Lambell. "The front-end is a small part of the design effort."

The system has been running successfully for a year and now contains 16 gigabytes of data and is growing steadily. It holds information on claims, income and customers and has so far been used mainly by the hospital contracts division. Of the 30 current users, around half are in that department, but the take-up by other departments is growing as more people come to learn of its usefuleness.

PPP campaign: healthcare services are now 'tailor-made' in a highly competitive market

Clarity

"It has brought about substantial changes," says Mr Lambell. "We are able to examine closely how we work with the hospitals which provide healthcare to our customers and are much clearer now about our costs."

Around 80 per cent of the income of this £500m a year business goes out in costs such as hospitals and healthcare specialists.

The market has attracted a number of new entrants in recent years, which increases the pressure on the company to manage its costs more efficiently.

It is now in a position to tailor its services to the most cost-effective services around the country, including offering new insurance policies linked to a particular hospital.

The data warehouse cost around £1m to set up, but the company believes it has re-couped that cost in more efficient operations in the first year. The IT department has added two more people to its staff, but is providing a much better quality of service to its users, Mr Lambell says.

The mainframe will be retained as it is considered a good vehicle for routine processing and as a central server.

In studying the data warehousing market, Mr Lambell says he came across many other companies which had similar problems in getting data quickly enough from old mainframe systems.

Many of them took too long in deciding what to do about it or planned over-engineered alternatives, he says.

"A lot of companies got bogged down as a result. Energy and common sense are what is needed – not getting hung-up on the technology."

FINANCIAL TIMES
Wednesday March 5 1997

West may propose mediator in Albania

By Kevin Done and Bruce Clark in London and Kerin Hope in Athens

Western governments were discussing the possibility yesterday of naming a senior international figure to mediate in Albania's mounting crisis, diplomats said.

As the Albanian authorities sought to impose order under the state of emergency declared on Sunday night, the country's armed forces were still failing to quell the weeks of unrest in the south of the country.

Armed gangs patrolled the streets of Himara on the Adriatic coast yesterday, and groups of masked men with automatic weapons were seen looting shops and homes in Saranda and nearby villages, local residents told Greek radio and television stations.

Amid mounting international concern the US said it strongly regretted Albania's imposition of the state of emergency as well as Monday's vote by parliament to re-elect President Sali Berisha.

Mr Malcolm Rifkind, British foreign secretary, called on President Berisha to work with the opposition "to restore faith" in the democratic process. He said that "stability cannot be restored by force alone."

Mr Klaus Kinkel, German foreign minister, urged that a delegation of the Organisation for Security and Co-operation in Europe should be sent to Albania.

US and European officials held intensive talks about the Albanian crisis at the Vienna headquarters of the 54-nation OSCE, which has a broad mandate to promote democracy, human rights and security.

The OSCE mediator being discussed in western capitals would have a role similar to that played in Serbia recently by Mr Felipe Gonzalez, the former Spanish prime minister who helped to persuade President Slobodan Milosevic to honour the results of elections.

Diplomats said that an OSCE mediator could help President Sali Berisha to involve the opposition in an effort to defuse the deepening crisis and to lead to the formation of a government of national unity.

Officials in Athens voiced concern yesterday that ethnic Greeks living in southern Albania might be held responsible for continuing anarchy there and that the Berisha government might take punitive measures against them.

The southern towns of Saranda, Himara, Delvinaki and Gjirokaster, where an estimated one-third of residents are of Greek origin, were plunged into anarchy at the weekend after rioters broke into military warehouses and stole thousands of automatic weapons.

Hard decisions, Page 3
Editorial Comment, Page 13

Chinese stub out smoking on public transport

By Tony Walker in Beijing

Less than a week after China's most famous smoker, Deng Xiaoping, was cremated, the government has banned all smoking on public transport from May 1.

China's 350m smokers will be prevented from lighting up in railway carriages, aircraft, ships, buses, subways, taxis, ticket halls or waiting rooms. Offenders will be fined up to Yn50($6).

It is estimated that China's smoking legions consume 1.6 trillion cigarettes a year – 30 per cent of the world's total.

The ban is another step in China's efforts to curb a national pandemic which claims millions of lives a year from cancer and heart disease.

According to a 1995 article in the Journal of the American Medical Association, cancer rates in China are increasing at 4.5 per cent a year, and lung cancer alone could kill 900,000 people by 2025.

Mr Deng, who lived to 92 and gave up smoking in his final years, died of Parkinson's disease and respiratory failure.

China's old-guard revolutionaries like Deng and Mao Zedong were addicted to cigarettes, but there are few smokers among the younger generation of leaders.

Mr Li Peng, the premier, who suffers from heart problems, is at the forefront of the campaign to cut consumption – a ban on smoking in Beijing's government offices was imposed a year ago – but his cash-strapped government relies heavily on cigarette excise duty.

Cigarettes are the treasury's largest source of revenue, generating about Yn80bn ($9.6bn) a year in taxes and sales.

Some Chinese people spend up to 60 per cent of personal income and 17 per cent of household income on cigarettes, according to the AMA. Some 67 per cent of adult males are smokers, compared with 2 per cent of women.

The smoking ban will be most troublesome for travellers on long train journeys. The Ministry of Railways estimates that the country's 1.2bn people take 1bn rail journeys a year and that 60 per cent of passengers are smokers.

China has been slow to recognise the harmful effects of smoking, but the health costs are now being calculated and insurance companies are charging lower premiums for non-smokers.

The number of smokers in China is increasing by about 2 per cent a year, whilst rates in the developed world are falling by about 1 per cent. International tobacco companies are targeting China as a huge potential market.

THE LEX COLUMN

Renault's cruel cut

Overcapacity has depressed returns to the point where three of Europe's six volume carmakers – Fiat, Ford and Renault – are in loss. So Renault's decision to shut its Belgian factory, on top of Ford's production cuts at Halewood in the UK, may seem encouraging. But on its own, one plant closure will not solve Renault's problems. It looks as if the group is ducking a more radical restructuring by shutting a productive foreign plant rather than one of its high-cost French ones. If it is, that is extremely short-sighted. Not only does it suggest that management lacks the stomach for a fight with its domestic workforce. By pursuing a nationalistic approach to job cuts, it may damage its brand abroad. How many Belgian consumers will buy Renault cars now? The right approach, both financially and in terms of fairness, would be for the cuts to fall predominantly on the least productive plants.

Daimler-Benz is an interesting contrast. When it pulled the plug on Fokker a year ago, it was clear that the Dutch group was in severe financial difficulties. Moreover, it was part of a concerted overhaul of the German group, including big job cuts at home. Of course, Daimler had plenty of non-core businesses to sell, while Mercedes has continued to perform well – group profits for 1996 are likely to hit DM2bn ($1.1bn), well ahead of forecasts.

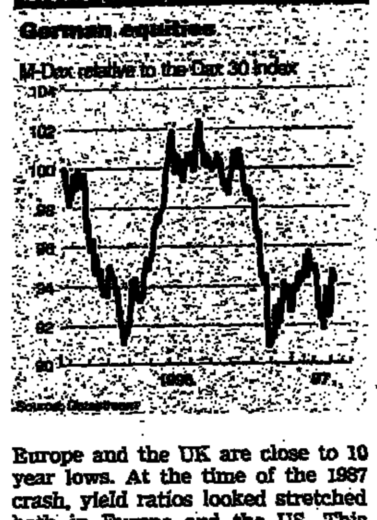
Renault, where the problems centre on the car division, is in more of a strategic bind. The group's real role model, therefore, should be Volkswagen. After a huge loss in 1993, VW re-engineered, cutting production platforms and costs dramatically. If Renault could find a partner, such as Ford or Peugeot, to share platform development it might reap strategic benefits while avoiding the political difficulties of a full merger.

Stock markets

European equity markets have shown signs of decoupling from the US, although in constant currency terms there is no clear trend. But this week, two events will show just how far apart the US and European economic cycles are: German unemployment should rise further, while non-farm payrolls will underline the strength of the US economy. Furthermore, the yield ratio between bonds and equities in the US is substantially above its long-term average, while the ratios in continental

FTSE Eurotrack 200: 2193.8 (+22.4)

German equities



Europe and the UK are close to 10 year lows. At the time of the 1987 crash, yield ratios looked stretched both in Europe and the US. This argues for far greater divergence.

Restructuring is a key factor that should support European equities. Not only will it underpin earnings, but lay-offs – and fear of unemployment – will restrain economic prospects and therefore bond yields. Of course, if the US suffers a significant correction, other markets will follow; but they will not have nearly so far to fall.

German stocks

German shares have started the new year with the same vigour they showed during the old. But one thing is changing. During 1996, much of the excitement came from restructuring initiatives at large companies, with the three big chemical groups and Daimler-Benz and Veba leading the performance tables. This year, second liners are coming to the fore. So far in 1997, the M-Dax index of 70 medium-sized companies has jumped more than 17 per cent, outperforming the top stocks in the Dax 30 by 4 per cent.

There are good reasons for this. While it does not hit the headlines, restructuring is filtering down the corporate ladder. A combination of acquisitions, cost cutting and, in some cases, new management has transformed a number of M-Dax constituents into world leaders. Fresenius has turned itself into the number one provider of kidney dialysis services through its $2.3bn purchase of a majority of National Medical Care of the US. Its shares have risen eight-fold since flotation in 1992. Duerr is the leading global supplier of paint plants to car makers, while KSB is one of the world's biggest pump manufacturers.

Domestically-orientated smaller companies will also gain disproportionately from planned cuts in corporate taxation and a revival in the German economy, however weak. The tax reforms should particularly help builders, utilities and consumer stocks. They make up 44 per cent of the M-Dax but only 16 per cent of the Dax 30, which is dominated by chemicals and cars.

Halifax

Halifax is like the proverbial schoolboy in a sweet shop. Its demutualisation document lists access to capital as a key reason for becoming a listed company. But it already has more than £3bn of surplus capital, which contributed to last year's unimpressive 14 per cent return on equity. Like most building societies, it feels there are better things in life than selling mortgages. But there are alarming precedents for what happens when banks have too much cash, and – judging by the Scottish Amicable sell-off – prices have moved accordingly.

Fortunately for Halifax's future shareholders, it looks less likely to squander cash than most. It has completed several sensible deals, acquiring the Leeds and Clerical Medical. So it has done enough to follow its strategy of becoming a financial services supermarket with expertise in insurance, life assurance and fund management. It would therefore be hard to justify a big strategic deal in those areas. A small building society is a more obvious target. And the management should consider handing £1bn or so back to shareholders almost immediately, if only to emphasise that it will be a responsible guardian of shareholders funds.

It would then have a good story to tell. It writes off all sweeteners to new mortgage customers immediately against profits – so now cash back deals are diminishing, Halifax can invest in more competitive packages and still improve margins. Add in cross-selling of new financial products and the growing return on capital from handing back surplus cash, and there would be plenty to attract new shareholders.

Additional Lex note on MFI, Page 23

Paris calls Renault chiefs to new talks on jobs cuts

By David Owen in Paris, Neil Buckley in Brussels and Haig Simonian in Geneva

Mr Franck Borotra, the French industry minister, yesterday summoned Renault for new talks on its controversial European restructuring plans, following confirmation that the loss-making French carmaker expects to cut more than 2,700 jobs in France this year.

As the row over the company's decision to close its Belgian car plant with the loss of 3,100 jobs entered its fifth day, Mr Borotra told French MPs he was asking Renault management to renew discussions on putting in place "the necessary financial means" for the company's restructuring.

The industry ministry later emphasised that the French government would not seek to intervene in exchanges between Renault – in which the French state remains the largest shareholder with 47 per cent – and the Belgian authorities. Responsibility for the decision rested with the company's management.

Mr Borotra's remarks came as senior Renault executives said there was no chance of reversing the decision to stop making cars in Belgium. Mr Louis Schweitzer, the company's chairman, said the move was "grave and painful", but had been examined "attentively to make sure the need for it was incontestable on a strategic and economic level".

Separately, it was confirmed that Renault plans this year to use early retirement, part-time working and other measures to cut 2,764 jobs from its French operations. It shed 1,600 jobs by similar methods last year. At the end of 1995, the group's worldwide workforce was just under 140,000.

In a highly unusual move, the 20 European Commissioners are today to discuss the closure at their weekly Brussels meeting. Mr Jean-Luc Dehaene, the Belgian prime minister, wrote on Monday to Mr Jacques Santer, Commission president, urging him to investigate whether Renault had contravened EU rules on worker consultation.

Mr Karel Van Miert, competition commissioner, has given a personal view that Renault breached two European Union directives. The Commission cannot itself take legal action, but its opinion can be cited in cases brought under EU law in national courts. The Belgian government is proceeding with plans for a legal challenge to Renault.

Workers at the Vilvoorde plant in Belgium were yesterday finalising plans for a series of demonstrations, including a day of action on Friday – when workers at Volvo, Volkswagen, Opel and Ford plants in Belgium are expected to stage simultaneous stoppages – a demonstration in Paris next week, and a mass march for jobs in Brussels on March 16.

Peugeot-Citroën stresses share value, Page 15

Sweden's alcohol monopoly

Continued from Page 1

fully liberalising the sale of alcoholic beverages."

The government had been confident of winning the case, sparked by Mr Harry Franzen, a grocer from the south of the country, who was prosecuted for selling wine on the day Sweden entered the EU.

Mr Franzen, who has become something of a folk hero in Sweden, said he hoped to be again selling wine in his store by the end of the year. "I congratulate all grocery store owners in Sweden, Finland, Norway and Iceland," he said.

Yesterday's opinion has to be put to the full court but it is rare for a preliminary decision to be overturned. A final verdict will take at least three months, but officials were predicting a longer delay.

'Bomb' danger

Continued from Page 1

building maintenance: "It is not inconceivable lift systems may fail to recognise the turn of the millennium correctly and immediately schedule themselves for maintenance."

Mr Guenier said it was too late for companies that had not started to overhaul computer systems to do the job properly.

FT WEATHER GUIDE

Europe today

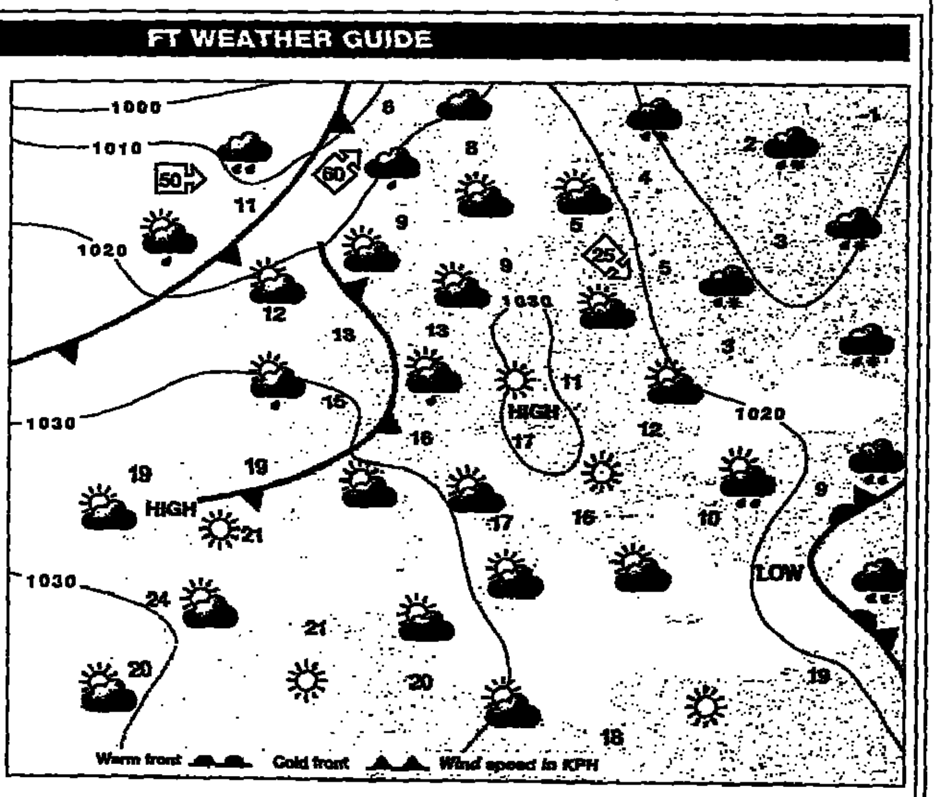
A front will move across the British Isles, bringing showers to north-west Ireland and Scotland. South-east England will stay dry with sunny spells.

Another front will move eastwards, with rain or showers expected in the eastern parts of the Benelux, western Germany and eastern France. It will be rather warm, dry and sunny on the Iberian peninsula.

High pressure will bring dry, sunny conditions from Finland across Poland and the Balkans to as far south as Italy and Greece. There will be cloud and sleet or snow in Russia and the Ukraine.

Five-day forecast

High pressure will continue to bring fine conditions to the Iberian peninsula, southern France, most of Italy, the Alps and the Balkans. It will be showery in southern Italy during the weekend. The UK, southern Scandinavia and parts of the Benelux and northern Germany will remain unsettled.



Situation at 12 GMT. Temperatures maximum for day. Forecasts by Meteo Consult of the Netherlands

TODAY'S TEMPERATURES

	Maximum	Beijing	sun 16	Caracas	fair 29	Faro	sun 20	Madrid	sun 20	Rangoon	sun 37
	Celsius	Belfast	rain 11	Cardiff	cloudy 11	Frankfurt	cloudy 16	Majorca	fair 19	Reykjavik	snow -1
Abu Dhabi	sun 29	Belgrade	sun 15	Casablanca	sun 19	Geneva	cloudy 17	Malta	sun 18	Rio	cloudy 30
Accra	sun 33	Berlin	fair 13	Chicago	fair 3	Gibraltar	fair 18	Manchester	cloudy 12	Rome	sun 18
Algiers	sun 21	Bermuda	fair 24	Cologne	shower 15	Glasgow	rain 12	Manila	fair 32	S. Frsco	cloudy 17
Amsterdam	shower 11	Bogota	cloudy 23	Dakar	sun 30	Hamburg	fair 15	Melbourne	fair 24	Seoul	sun 13
Athens	fair 16	Bombay	sun 34	Dallas	cloudy 16	Helsinki	fair 3	Mexico City	fair 28	Singapore	fair 31
Atlanta	thund 22	Brussels	shower 12	Delhi	sun 27	Hong Kong	fair 22	Miami	fair 29	Stockholm	cloudy 8
B. Aires	fair 25	Budapest	sun 11	Dubai	sun 28	Honolulu	fair 27	Milan	fair 17	Strasbourg	shower 16
B.ham	cloudy 12	C.hagen	fair 8	Dublin	shower 12	Istanbul	fair 10	Montreal	cloudy -3	Sydney	fair 24
Bangkok	sun 38	Cairo	fair 19	Dubrovnik	sun 17	Jakarta	shower 30	Moscow	sleet 3	Tangier	sun 20
Barcelona	fair 18	Cape Town	fair 23	Edinburgh	rain 13	Jersey	fair 11	Munich	fair 14	Tel Aviv	fair 17
						Karachi	fair 30	Nairobi	fair 29	Tokyo	fair 12
						Kuwait	sun 18	Naples	sun 18	Toronto	shower 4
						L. Angeles	sun 23	Nassau	fair 29	Vancouver	rain 8
						Las Palmas	sun 26	New York	cloudy 9	Venice	sun 15
						Lima	fair 28	Nice	sun 17	Vienna	fair 15
						Lisbon	fair 22	Nicosia	fair 16	Warsaw	fair 9
						London	fair 12	Oslo	fair 6	Washington	fair 18
						Lux.bourg	shower 11	Paris	shower 12	Wellington	cloudy 22
						Lyon	cloudy 15	Perth	sun 32	Winnipeg	fair -5
						Madeira	fair 23	Prague	fair 13	Zurich	cloudy 16

FINANCIAL TIMES

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Wednesday March 5 1997

Albania's troubles

For some time after the collapse of its particularly nasty communist regime, Albania seemed a surprisingly stable spot in a deeply troubled region. The recent violence and political disarray show that the veneer of stability was thin indeed.

Restoring stability and putting it on a more sustainable footing are important tasks, not just for Albania but for the south-east of Europe as a whole. Without it, there is a danger that violence could spread to the Serbian-ruled province of Kosovo, or that refugees will resume their exodus to Italy and Greece.

Unfortunately, western nations have thus far been of only limited help. Their generosity with financial aid – necessary to kick-start development in Europe's poorest country – has not been matched by assistance in establishing durable political institutions.

The results have been becoming steadily clearer over the past year. President Sali Berisha has reverted to increasingly authoritarian methods to maintain power. The opposition has been disenfranchised. A wave of popular anger at the collapse of fraudulent investment schemes has turned into violent anarchy.

The European Union bears some responsibility for this situation. Its response to Mr Berisha's retreat from democracy has been feeble. Fearful of further destabilising him, it played down criticism of last year's rigged general election. It is now reaping the whirlwind.

Clearly order needs to be restored to the streets. But that can only be a first step, and Mr Berisha's task will be rendered more intractable still if he uses excessive force. Beyond that, he needs to be pushed towards the more resolute agenda for reform put forward by the US administration, which has long shown greater appreciation than the EU of Albania's strategic importance.

Washington is calling for roundtable talks with the opposition. Such discussions could lead to the formation of a broad-based coalition government, the drawing up of a new constitution, and finally the holding of new elections to restore legitimacy to parliament.

This may sound a tall order for a country that only emerged five years ago from a 40-year nightmare. But the west holds the purse-strings. It should use that influence to force the political pace before Albania slides further into chaos.

Ulster's path

Multi-party talks on the political future of Northern Ireland are due to adjourn today until after Britain's general election. Once seen as the route *from* a temporary peace to a durable political settlement, they have painfully little to show for eight months work.

The parties have yet to move from procedural wrangling to any real discussion of the ingredients of an eventual political accord. The issue of arms decommissioning by paramilitaries has been a constant stumbling block. Mr George Mitchell, the able and independent US chairman, has been repeatedly frustrated by the intransigence and short-sightedness of some around the table.

Outside the negotiating chamber, the atmosphere in the province has been poisoned by bitter disputes between unionists and nationalists over the Orange Order's parades.

The main responsibility for the impasse, however, rests with the IRA and with its political wing, Sinn Féin. The resumption of the IRA's terrorist campaign and the support for it proffered by Sinn Féin have destroyed confidence in the intentions of Republicans. Moderate unionists cannot be blamed for concluding that the IRA ceasefire represented a tactical manoeuvre rather than a real change of heart.

Mr Gerry Adams and his colleagues have thus rightly been excluded from the talks. Each IRA bomb and murder further erodes their credibility, and risks a similarly unrestrained return to violence by loyalist paramilitaries.

That said, the mainstream unionist parties have done little so far to indicate they are ready to reach the settlement with constitutional nationalists which is vital to undercut popular support for Sinn Féin. The unionists have been needlessly stubborn also in resisting the procedures set out in last month's North report to resolve disputes about Orange parades. The unfettered right to march exists nowhere in the UK.

So what next? It must be hoped that the talks will resume quickly after the British election – though, realistically, real progress may have to await also the outcome of elections in the Irish Republic. Those could take place as early as June.

It is essential meanwhile that governments and opposition parties in London and Dublin signal the outcome of the elections will not change the terms for Sinn Féin's participation. As Mr John Bruton, the Irish prime minister, remarked this week, Mr Adams can claim entry only when the IRA ceasefire is "unequivocally, believably and genuinely restored".

Happily, Britain's Labour party has sought to disabuse Sinn Féin that it would be a soft touch in government. Ms Marjorie Mowlam, the party's Northern Ireland spokeswoman, has made it clear that restoring confidence in another ceasefire would demand deeds as well as words from the IRA.

But the unionists must recognise their responsibility to give the talks process new momentum after the election. If Sinn Féin does well on polling day, it will be because many moderate nationalists suspect unionists have set their face against any political compromise. It is the self-interested task of unionism to break down that barrier of mistrust.

Bank mantras

Among the ritual incantations that accompany the reporting season for British banks and building societies, the complaint about the intensity of competition in retail banking looks increasingly curious. It is, after all, an odd kind of competition that leaves the spread between mortgage lending rates and average retail deposit rates at a higher level in today's allegedly competitive market than in the heady conditions of the 1980s.

True, the spread over wholesale funding rates has narrowed. Yet the striking paradox about retail banking remains its enduring stability and profitability. Despite the collapse of house prices earlier in the decade, profits in retail financed mortgage lending have continued to exceed loan losses.

Nor do these fat retail margins appear to reflect excessive risk-taking. The casualties in retail banking have been restricted to centralised lenders exclusively reliant on wholesale funds. An article in the Bank of England's new (and admirable) Financial Stability Review puts a convincing case that it would take quite exceptional circumstances to make a serious dent in the typical lender's solvency.

The explanation for this happy state of affairs is partly that competition is heavy in new business, but has less impact on the stock of older mortgages. Retail deposits, meantime, provide an excellent cushion against loan losses. While the retail bankers are no doubt right that their margins will erode because of new competition from the supermarkets and others, the erosion will be steady rather than severe.

A consequence of past stability and profitability is that most big building societies are over-capitalised. The remaining mutuals may thus have more scope to offer better deals to their members. For the de-mutualising societies, there are wider questions. They claim to want better access to equity markets and wholesale finance. Yet wholesale money, unlike retail, is expensive and volatile. Many of their future shareholders might prefer them to hand back equity capital, instead of risking losses on new ventures.

The low stock market rating of the older clearing banks reflects the taint of low returns earned outside retail banking. Building society margins may be under modest pressure. But the scope for subsidies from retail banking to less profitable non-core businesses looks uncomfortably long and wide.

Return of the conqueror

Nearly a century after the end of Spain's empire in Latin America, its companies are leading a new onslaught on the region, says David White

A few days before Christmas, two Spanish banks went out and bought themselves control of a third of Venezuela's banking system. A Spanish group has taken the dominant stake in the biggest natural gas reserve of northwest Argentina, which is set to become a significant exporter. From Peru to the southern tip of South America, telephone customers now make their calls through Spanish-controlled companies.

As they approach 1998 – the centenary of the end of their Latin American empire, when the last possessions of Cuba and Puerto Rico were humiliatingly lost to the US – the Spanish are back in a big way.

Over the past few years, Spain has become the largest European investor in the region. According to a study by KPMG Peat Marwick, foreign acquisitions by Spanish companies more than tripled in value last year, to \$6.3bn. *Most of this – \$4.5bn – went to* six South American countries.

Spanish executives say this bias is explained by language and cultural ties, close knowledge of the countries involved and a confidence in Latin America's economic future less shaky than that of other potential investors.

Until recently, Spain's claims to a zone of influence in Latin *America were largely rhetoric.* But Spain has now become a genuine force in the region in telecommunications, finance, energy and utilities – everything from insurance policies in Venezuela to bottled gas in Peru.

The bulk of Spain's colonial empire was accumulated in the half-century following Columbus's first landfall. The new *sprawling corporate dominions* have mostly come about in the past three years.

Spanish companies and banks are lured by the potential for rapid growth, expanding populations and relatively undeveloped markets. They are not put off by recollections of the Mexican financial crisis two years ago, embassy hostage-taking in Peru or recent presidential slapstick in Ecuador. Top executives argue that Latin America is a reformed place, with growth based not on borrowing, as in the 1970s, but on savings and foreign investment.

Some leading Spanish investors, such as Telefónica and Banco Santander, are nearing the end of a first phase in their Latin American conquests: they are present in most of the markets they want to be, and do not want to overstretch their management resources.

But still the investment rush continues. Spain's Repsol oil and gas group, which last year took its biggest step in the region by buying a controlling stake in Argentina's Astra, envisages spending \$3bn in Latin America over the next five years. Companies already present in Spanish-speaking countries have established their first footholds in the region's most challenging market – Portuguese-speaking Brazil.

Telefónica, after winning the *bidding for a stake in the telephone* company of the southern state of Rio Grande do Sul, along with local partners, is looking for similar deals in the neighbouring states of Paraná and Santa Catarina. Banco Santander recently obtained authorisation to take control of Banco Geral do Comercio – a small institution, but the first such step in Brazil by a *Spanish bank.*

In its initial stages, the Spanish invasion was dominated by state-run companies, but the public-sector element has since decreased. This is, in part, because companies such as Telefónica, Repsol and the Endesa power-generation company are being progressively privatised.

The shift to the private sector *also reflects the increased role* in Spain's investment drive of the three big private Spanish banking groups – Santander, Banco Bilbao Vizcaya and Banco Central Hispano.

The one wholly-owned state company which figured prominently among the early adventurers – the airline Iberia – had to withdraw from investments that proved a drain on its resources. Most recently, a decision was taken to liquidate Viasa, the Venezuelan airline in which it held a majority stake.

The first wave of investments was led by Telefónica, first in Chile in 1989 and later in Argentina and Peru. A total of 10m telephone lines, 1m cable television subscribers and almost as many cellular telephone clients in the region give it a unique position among international telecoms groups. Mr Marcial Portela, chief executive of Telefónica Internacional, puts the market value of its Latin American holdings at about \$5bn.

Telefónica's shareholders and competitors were taken aback three years ago when it spent \$1.8bn to buy into Peru's formerly state-owned telephone system – far more than US rivals were ready to offer. But Mr Portela says the Peruvian holding is now worth slightly more than that, and has given the group invaluable experience. Peru's expanded network has 250 lines per employee, compared with 40 when Telefónica took over. It is also 80 per cent digital, says Mr Portela. The company plans to repeat the performance in southern Brazil.

Latin America represents most of the *group's activity* abroad, accounting for 15-20 per cent of its total business. Its aim is to reach 50 per cent at the end of the decade. Telefónica is now looking into proposals to set up a consortium with a US partner in Mexico, a market it considers too big to tackle alone.

Spanish companies have been *infecting each other* with their confidence about prospects in the region. Mr Emilio Ybarra, chairman of Banco Bilbao Vizcaya, admits the bank has "gone in faster than we planned at first". BBV calculates it is now the fourth biggest bank in Spanish-speaking Latin America by assets. Banco Santander is third.

Together, the main Spanish banks have invested more than \$4bn in Latin America. Among their interests are the two largest financial groups in Chile, the biggest bank in Colombia, the third largest in Argentina, two of the top three in Venezuela, and extensive networks in Mexico. Bolivia's new pension scheme is to be handled by two Spanish-led consortia.

The three big Spanish banks have followed different tactics. Central Hispano relies heavily on local partners. BBV, which has an overt ambition to become "a big Euro-Latin American bank", has taken mainly minority holdings, although it has insisted on management control. Banco Santander has gone for majority stakes, nearly always putting its acquisitions under its own name. It has made the heaviest commitment, making investments with a book value of \$2bn.

Banco Santander has been active in the region since the 1950s, including participation in *retail banking in central America.* "We didn't have the size to go into the larger markets," says Ms Ana Patricia Botín, chief executive of the merchant banking arm Santander Investment and board member of the group chaired by her father, Mr Emilio Botín.

During the 1980s debt crisis, she says, "we were getting out *from loans but, at the same time,* getting into the market". Commercial bank acquisitions have been more recent – in Chile, Peru, Puerto Rico and, in the last few months, in Colombia, Mexico, Venezuela and Brazil.

Latin America is now roughly twice as important for the group as its European interests outside Spain, accounting for 17 per cent *of its assets and a fifth of its* pre-tax profits. The bank is now close to its self-imposed ceiling for capital exposure in Latin America – 20 per cent of net worth.

Ms Botín says Santander intends to concentrate on the region's main countries, seeking significant market shares. "It's the only way we're going to survive," she says, drawing lessons from the experiences of foreign banks in Spain. "You can't compete as medium-sized banks."

For the banks, the growing Latin American markets compensate for increasingly tight margins and tough competition at home. They are counting on margins remaining high in the region as banking services develop.

"I calculate that perhaps there are 10 years [of high earnings] left," says Mr Juan Rodríguez Inciarte, head of global banking at Banco Santander. "But it may be more."

The high returns involve *certain dangers, he admits.* "You have to be ready for some volatility," he says, even though half Santander's investments are in what he describes as low-risk countries.

The threat of currency devaluations and market instability is ever-present. "There is certainly more risk," Banco Bilbao Vizcaya's Mr Ybarra states flatly.

Telefónica has taken steps to cover its risks, at least in part, with tariffs on some of its operations indexed to the dollar. Cable TV subscribers in Peru pay directly in dollars. At the same time, the group has sought to have debt denominated in local currencies.

"We have a very realistic sense of our risks," says Mr Portela. A *relatively low book value is given* to the company's Latin American holdings, about half their market worth. "We would need to have a catastrophic world situation to have book losses."

Nonetheless, Mr Portela accepts "we will have to live with situations like the tequila effect" – the shock to Latin confidence that followed Mexico's devalua*tion of December 1994.*

Just as then, there will be other countries where investors panic, and where the more speculative vanish overnight. But companies like Telefónica, Repsol and the Spanish banks insist they will not be among them. They are in Latin America for the long term.

· OBSERVER ·

Harry's tonic for trade

■ The southern Swedish village of Röstånga probably doesn't have many local heroes, so the triumph of Harry Franzen is certainly something to drink to. His one-man effort to topple the Swedish state's control over a tipple has won him the hearts of many Swedes.

Two years ago Franzen, a bubbly chap, became a media celebrity by inviting TV cameras into his grocery shop to film him selling wine on the day Sweden joined the European Union. Highly treasonable it was too, challenging the monopoly exercised by the Systembolaget chain over the sale of spirits, wine and strong beer.

The wheels of justice grind slowly but Europe has now *delivered a preliminary ruling* in favour of the little man. Franzen, it says, has every right to sell his booze. The monopoly – deemed essential by the government on health grounds – was declared by the court to be inimical to the free flow of goods in the EU.

Indeed, Michael Elmer – the European Court's Danish *advocate-general* – suggested that a few glasses of wine a day were a very healthy thing. We should perhaps note that Elmer's home country is the *only Nordic nation without* a state alcohol monopoly.

Franzen was in sparkling mood: "Congratulations to the grocers of Sweden, Finland, Norway and Iceland," he said, confident that the final verdict will go his way. So cheers – even three of them.

Lotus blow

■ Much sadness at the UK headquarters of sports car specialist Group Lotus after the untimely death of Tan Sri Yahaya Amed. Yahaya, a youthful 50, was seen as something of a saviour by Lotus's 1,100 employees who had long grown weary of the group's *struggle for survival* under previous owners.

The manner of his arrival on the scene last November was impressive enough. The £50m deal to acquire control of the ailing car maker was clinched in just 20 minutes of face-to-face talks between Yahaya and Lotus's then owner, cash-strapped Italian entrepreneur Romano Artioli.

At the subsequent takeover ceremony and the announcement of a new engine centre – each occasion the excuse for *parties for all employees and* their families – the new non-executive chairman made clear that Lotus engineers would have plenty of freedom to *develop the business as they saw* fit. Earlier plans to sell out to Daewoo had raised fears of much greater intervention.

News of Yahaya's death reached Lotus executives at the Geneva motor show as they prepared to announce further investment and a substantial EU grant to develop computerised crash testing. Mohamed Zainal, Lotus chief executive, says plans won't change.

Unplugged

■ If you choose to be laid to rest in an air-conditioned glass coffin, make sure that the family you leave behind can afford to pay their electricity bills.

Unfortunately for the corpse of former Philippine president Ferdinand Marcos, who died in exile in Hawaii in 1989, his family have failed to do so. On Monday the local electricity co-operative – which is owed more than \$200,000 – decided to pull the plug.

"This is the ultimate harassment, the harassment of the dead, the dead who cannot speak up to defend himself," moaned widow Imelda. She is now hinting that her husband could finally be transported from *his home town of Batac and laid* to rest in the capital.

Marcos's family always wanted a Manila burial but President Fidel Ramos – a *cousin of the former dictator* – has always refused on the grounds that it might cause unrest. It was 1993 before he allowed the body to be returned to the Philippines.

The latest grisly warnings from Marcos's embalmer may help change the president's mind. Unless the air-conditioning is switched back on within two months, there is a risk mould may start to develop.

I see red

■ Like parents everywhere, the Chinese authorities are worried that video games played by the nation's children are far too, well, interesting. Its concerns *include standard gripes* – that most games revolve around sex and greed – and peculiarly Chinese worries; for example, that most games on the market suggest the superiority of Western weapons.

Researchers at Quingha University were set the task of putting this right. Later this year China's youth will get the opportunity to play "Long March" – based on the historic 1930s trek by Communist forces – and "August 1 Fighting Eagle", about a patriotic pilot *who shot down lots of US planes* in Korea. And let's not forget "Opium War", a potential blockbuster about Qing dynasty corruption.

The Financial Times

100 years ago

Production Of Opium
In spite of the agitators, the Indian opium production continues to maintain its normal rate. The output in the native states is uncertain, but British Indian returns show that the acreage under cultivation is 537,556 – figures that have not been exceeded since 1888, although the earlier returns were somewhat larger. Excise opium, or opium grown for Indian consumption, shows a tendency to fall off. But the demand in China is as strong as ever, for although the figures for 1894-95 are rather below those of the two previous years, they are well above the average for the decade. The falling off in the total export is due to the sharp reduction in the quantity sent to Hong Kong during the past three years.

50 years ago

Rand Picketing
Strikers on the Western Rand yesterday started picketing the gold mines, according to a Reuter message from Johannesburg. Many of the miners were reported to have joined the pickets and helped to stop vehicles conveying other workers. The number of European miners working on the Rand yesterday was 6,074, indicating that a further 134 had returned.

Taxpayers foot bill for GAN's mistakes

Rescue plan for French state-owned insurer will cost at least FFr20bn, writes Andrew Jack

Behind the elegant and solid stone façades of the buildings lining Rue Pillet-Will in central Paris, all owned by GAN, the French state-owned insurance group, lurk huge financial troubles.

Last Thursday, the company announced it was taking FFr14bn ($2.45bn) in new provisions and that its 1996 results – to be published in April – would show losses of about FFr5bn.

Simultaneously, the French government unveiled a rescue plan for the insurer in the form of a capital injection and a guarantee against future losses, which could cost taxpayers at least FFr20bn.

The two statements are unlikely to be the end of GAN's troubles. The state already gave the group a FFr2.8bn support package two years ago, and must now help steer it through a delicate process of restructuring and privatisation.

Mr Jean Arthuis, the French finance and economics minister, said last week: "GAN finds itself in a dramatic situation. [Its] seriousness could trigger incomprehension, even revulsion. At this stage, the shareholder must face up to its responsibilities."

According to figures provided by the government, GAN's business strategies have cost it nearly FFr35bn since 1992. For Mr Arthuis, that was the result of ineffective internal and external controls, and the collective failure of directors, auditors, regulators and also the state in its role as shareholder.

Some of GAN's problems can be traced to errors in the way it carried out its core insurance activities. Mr François Heilbronner, the chairman appointed to the nationalised group in 1986 after a career in the public sector, embarked on policies which raised the eyebrows of his competitors.

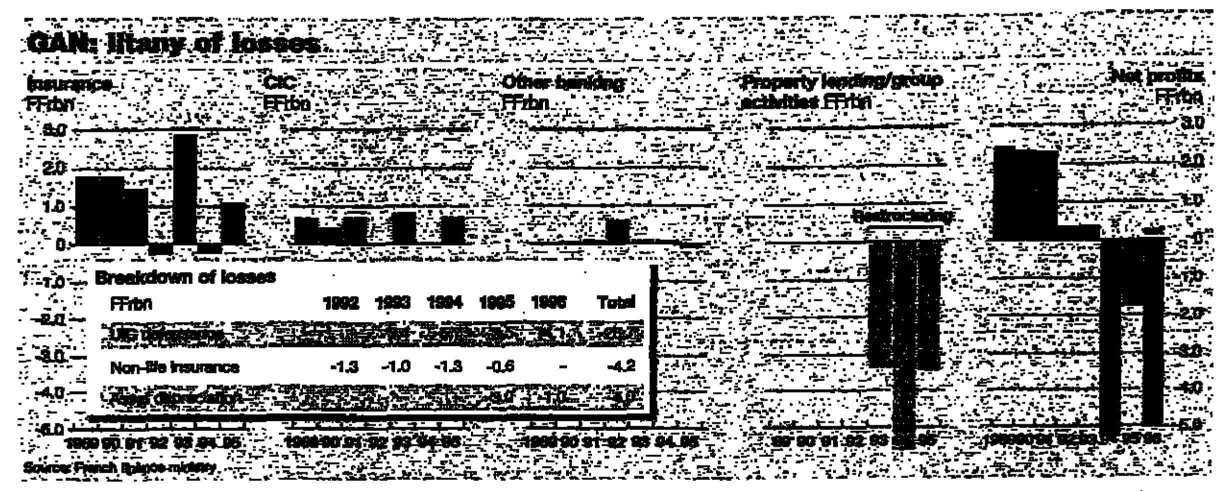
None was more controversial than the so-called "blue tariffs" launched in 1988 and accelerated in the following years, designed to capture market share from rival insurers by undercutting the premiums levied on non-life contracts at a stage in the insurance cycle when margins were already squeezed.

Other insurers attempted to hedge against domestic pressure by expanding their operations internationally. GAN chose instead to focus on France, bringing in clients in the hope that they would remain with the group even after premiums rose again.

"Clients are no longer so loyal," says a rival insurer. "They came to GAN, but then they left."

The result was a severe erosion in the profitability of the group's insurance activities. Under the government's new rescue plan, these will be recapitalised with FFr3.9bn, to bring the business up to acceptable levels of solvency.

But most of GAN's losses were the result of Mr Heilbronner's larger empire-building ambitions. He was in many ways the architect of "bancassurance", by which insurers combine their skills with bankers – the former bringing technical expertise, and the latter the client base of their extensive retail branch network.



GAN's chosen vehicle was CIC, a group of regional banks across France. The insurer acquired a 34 per cent stake in 1985, under Mr Heilbronner's predecessor, Mr Bernard Attali. That rose to 51 per cent in 1988, and to 85 per cent in 1993.

Yet Mr Heilbronner was not content simply to sell insurance through CIC. He chose to diversify into the booming property development sector.

CIC owned 49 per cent of UIC, a specialist property lender. Under GAN's influence, it increased its stake to 64 per cent in 1990, before ceding control to its parent three years later.

UIC was to be the downfall of the group. It had expanded rapidly – with total loans outstanding rising from FFr15bn in 1987 to FFr50.6bn in 1993 – even as the French property market began turning sour. Since 1992, its losses have cost GAN nearly FFr27bn.

UIC was the ultimate link in a chain of command that proved extremely slack. CIC claimed for a long time that, as a minority shareholder, it did not have control over its subsidiary. GAN in turn lacked authority over CIC, whose chairman is selected by the state and not by the head of the insurance group.

By the time Mr Heilbronner took direct control of UIC in 1993 – many argue without making an adequate assessment of the quality of its loan portfolio – the damage had largely been done.

The state was forced to react in 1994 by setting up a "defeasance" structure for FFr19bn in loans made by UIC, which were ring-fenced for intensive management.

It also replaced Mr Heilbronner and other key executives with a new team led by Mr Jean-Jacques Bonnaud, who had worked at GAN since 1979.

Mr Bonnaud commissioned an audit which suggested the need for substantial additional property provisions, and sought more than FFr10bn in further state aid. Yet his pleas fell on deaf ears.

Preoccupied with Crédit Lyonnais and other financial crises, ministers granted him just FFr2.8bn in assistance, hoping that the additional cost of the group's property exposure would be absorbed by its profits from insurance activities.

Then last year, it pushed for a rapid privatisation of CIC, in a move which cost Mr Bonnaud his job. Since he bears little responsibility for the insurer's problems, the decision of the government to sack him seems principally to be the result of two factors.

First, he opposed the "parachuting" of a close political adviser of Mr Alain Juppé, the prime minister, into the post of head of the bank.

Second, he made no secret of his concern about the way in which the sell-off was taking place, which threatened both the integrity of CIC and the delicate financial link it had with GAN.

It was only last week that the government finally agreed to the new aid package, accompanied by a renewed effort to sell off the insurance activities of GAN and CIC, separately or in combination.

The French state and GAN, now chaired by Mr Didier Pfeiffer, must hope they can put an end rapidly to a catalogue of expensive errors.

De Beers sales up despite falling jewellery market

By Mark Ashurst in Cape Town and Kenneth Gooding in London

The uncut diamond cartel run by De Beers of South Africa last year managed a 7 per cent sales rise against a background of falling sales in world diamond jewellery retailing.

Mr Julian Ogilvie Thompson, chairman, said yesterday De Beers' attributable earnings rose 33 per cent in US dollar terms to $828m, or 218 cents a share.

The group is lifting the dividend by 10.5 per cent to 102.7 cents.

Sales of rough diamonds rose 7 per cent from $4.5bn to $4.8bn, despite an estimated 2 per cent fall in dollar terms in global retail jewellery sales.

The biggest weakness was in Japan, where devaluation of the yen contributed to a 14 per cent drop in retail jewellery sales in dollar terms. Nevertheless, diamonds outsold gold in all countries.

Total income to De Beers' diamond account was 6 per cent higher at $803m.

Earnings were swollen by the disposal by de Beers and Anglo American Corporation of their controlling stake in Johnnic, the South African industrial holding company sold to black investors in August. This contributed an exceptional 29 cents to earnings.

Proceeds from the sale of their controlling stake in JCI, the South African mining house, to a consortium led by Mr Mzi Khumalo, a former political prisoner, would be included in first half results this year, said Mr Ogilvie Thompson.

He said it was too early to predict the outcome for 1997 although the first two monthly sights, or sales, of rough diamonds by the CSO had been good.

Fokker set to close as hopes for rescue fade

By Gordon Cramb in Amsterdam

Prospects were fading for a relaunch of Fokker, the failed Dutch aircraft maker, according to indications yesterday by Mr Jan Hovers, chairman of Stork, the industrial group which last July bought its profitable parts and maintenance division.

Hopes of a rescue had all but been abandoned after talks with Samsung of South Korea were broken off last November. But two weeks ago it emerged that the Malaysian government was willing to become the largest single partner in a consortium including Stork and other Dutch interests. This grouping had talks with the receivers aimed at an 11th-hour takeover of the regional jet builder.

With a staff less than a tenth of the level a year ago, Fokker is completing its final few outstanding orders and will otherwise close once the last of these is rolled out in a month or two.

Mr Hovers said the viability of any deal had been reduced by the Dutch government's refusal to carry forward some Fl 500m ($262.53m) in tax credits generated by Fokker's losses. This was proposed by Rabobank, main banker to Fokker, in a way which would have provided nearly half the restart capital the consortium is said to need.

Mr Hovers yesterday announced a 26.3 per cent jump in net profits for Stork last year to Fl 136.8m. Revenues at Fl 4.92bn were 19.3 per cent higher, buoyed by the activities of Fokker Aviation, the services side for which it paid Fl 302.5m.

From earnings per share of Fl 4.58 compared with Fl 3.70, Stork is paying a dividend of Fl 1.90, up from Fl 1.50.

EUROPEAN NEWS DIGEST

Seat pins recovery hopes on minicar

Seat, the Spanish subsidiary of Germany's Volkswagen group, expects to consolidate its financial recovery this year with a further steep rise in production. The company, which raised output by 25 per cent to 450,000 vehicles last year, is pinning its hopes on the Arosa, a minicar to be launched at this week's Geneva motor show.

Mr Barthel Schröder, the Seat board member responsible for production, said the company hoped to sell 50,000 Arosas this year, rising to 70,000 in 1998. Seat's financial recovery will be boosted by further productivity gains at its showcase Martorell plant. Pushing extra output through Martorell, the last of a generation of highly-expensive ultra-automated car factories, is the key to improving Seat's profitability, he said. The company expects a profit of about Pta2.7bn ($18.79m) for last year.

Haig Simonian, Motor Industry Correspondent

Geberit changes hands

Geberit International of Switzerland, Europe's leading manufacturer of sanitary ware and plumbing systems, is among a package of interests bought for SFr1.8bn ($1.21bn) from its family owners by Doughty Hanson, a London-based investment group, The businesses are being sold by brothers Mr Klaus Gebert, 70, and Mr Heinrich Gebert, aged 79. While retaining the existing Geberit management, the buyers plan to groom the company for a public share offering in three to five years.

Doughty Hanson claims to manage the largest independent private equity fund in Europe, acting as a conduit for money from financial institutions. It normally plays an active part in management of the businesses it acquires, and sets out to bring them quickly to market. It was a leading investor in TAG-Heuer, the Swiss watchmaker listed in Zurich last year.

Ross Tieman

Banco Mello returns to profit

Banco Mello, Portugal's sixth largest bank, moved into profit last year, increasing net consolidated earnings to Es503m ($2.95m) from a loss of Es1.8bn in 1995. The results are not directly comparable as Banco Mello de Investimentos and Banco Mello Imobiliário were consolidated into the group for the first time last year.

The bank, called União de Bancos Portugueses when it was acquired by Mr José de Mello, one of Portugal's leading entrepreneurs, in May 1995, invested Es8bn in 1996, up from Es2.9bn in 1995. Investment is aimed at creating an integrated financial group and developing clearly defined retail, investment and mortgage banking networks.

Operating profits rose to Es2.3bn last year from a loss of Es1.3bn in 1995. Cash flow increased 51 per cent to Es13.4bn. Lending rose 34 per cent to Es504.7bn and deposits grew 15 per cent to Es681.6bn. Assets increased 37 per cent to Es1,141.2bn.

Peter Wise, Lisbon

Innogenetics in black

Innogenetics, the Belgian biotechnology company that is one of only seven companies quoted on the fledgling Easdaq exchange, made BFr51.8m ($1.48m) net profit in 1996 compared with a loss of BFr114.4m in 1995. Sales rose from BFr538.8m to BFr829.8m. The company also revealed it had signed a distribution deal in the US with Murex Technologies to market Innogenetics' test to measure genetic resistance to some Aid drugs.

Daniel Green

NeuroSearch tumbles

NeuroSearch, the Danish biotechnology company, made an operating loss in 1996 of DKr4m ($620,000), compared with a profit in 1995 of DKr3.5m. The company's first annual results since flotation on the Copenhagen stock exchange in June 1996 also showed a fall in sales from DKr55.4m to DKr52m. But the company said there had been progress in clinical trials of drugs which are intended to treat nervous disorders.

Daniel Green

FINANCIAL TIMES
COMPANIES & MARKETS

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IN BRIEF

Viacom ends year on a high

Viacom, the US entertainment group, ended a troubled 1996 on a positive note with fourth-quarter earnings that exceeded the stock market's most recent expectations. Page 22

Hopes fade for Fokker relaunch
Prospects were fading for a relaunch of Fokker, the failed Dutch aircraft maker, according to indications by Mr Jan Hovers, chairman of Stork, the industrial group which last July bought its profitable parts and maintenance division. Page 16

UPM-Kymmene profits drop 43%
UPM-Kymmene, Europe's biggest pulp and paper group, reported a 43 per cent fall in profits in 1996 as the Finnish company suffered from the trend of falling prices and weak demand that hit the industry last year. Page 18

US railroads begin $10.5bn merger
The three big eastern US railroads started to thrash out details of a $10.5bn merger that will reduce their number to two and set the stage for a final round of mega-mergers with the two big railroads in the west. Page 22

Ireland may gain from 'UK Emu opt out'
Mr Don Godson, head of the CRH building materials group, the biggest industrial company in the Irish Republic, said the country could benefit even more from inward investment if it opted to join European economic and monetary union and Britain stayed out. Page 23

Halifax may return surplus to members
Halifax, the UK's largest building society, suggested it might return capital to its new shareholders as part of a drive to make better use of surplus funds, estimated to be up to £5bn ($8.15bn), after its £11bn flotation in June. Page 23

Life business behind GA rise
General Accident, the composite insurer, rewarded investors with a 10.5 per cent increase in its total dividend, as a strong performance in UK life assurance cushioned the effects of intense competition in general insurance. Page 23

Companies in this issue

Market Statistics http://www.FT.com

Chief price changes yesterday

FRANKFURT (DM)			
Rises			
[illegible]	94.05	+	1.35
[illegible]	795	+	9.50
[illegible]	695.50	+	19
[illegible]	1980	+	70
[illegible]	763	+	22
Falls			
[illegible]	579	-	11
NEW YORK ($)			
Rises			
[illegible]	49¼	+	3¼
[illegible]	39¼	+	4¼
[illegible]	34¼	+	2¼
Falls			
[illegible]	19	-	1
[illegible]	30⅝	-	1¼
[illegible]	35⅝	-	8¼
LONDON (Pence)			
Rises			
[illegible]	65	+	10
[illegible]	108½	+	11
[illegible]	91½	+	3
[illegible]	368½	+	11
Falls			
[illegible]	185½	-	40½
[illegible]	737	-	32½
TORONTO (C$)			
Rises			
[illegible]	7.25	+	0.65
[illegible]	10.50	+	1.00
Falls			
[illegible]	8.10	-	0.60
[illegible]	3.40	-	1.50
[illegible]	3.05	-	0.40
[illegible]	10.15	-	0.95

PARIS (FFr)			
Rises			
Alcatel	608	+	21
BIC	927	+	14
Bouygues	558	+	11
Danone	915	+	35
Peugeot	644	+	21
Falls			
Seita	217.40	-	7.60
TOKYO (Yen)			
Rises			
Chiba Bank	720	+	20
Daiwa Sec	875	+	52
Nikko Sec	723	+	31
Falls			
Amada Co	865	-	17
Cosmo Oil	441	-	20
Dai Tokyo	575	-	22
HONG KONG (HK$)			
Rises			
Amoy Props	9.45	+	0.15
First Pacific	11	+	0.30
Kowloon Mtr Bs	18.45	+	0.50
TVB	33	+	0.10
Falls			
Cathay Pac	11.85	-	0.30
Hang Seng	84.75	-	4.25
BANGKOK (Baht)			
Rises			
Charan Ins	51.50	+	3.75
Rockworth Pub	38.75	+	2.50
Thai Vegetable	50.50	+	4.50
Falls			
Far East	112.00	-	12.00
[illegible]	131.00	-	14.00
[illegible]	108.00	-	12.00

New York & Toronto prices at 12.30.

Televisa chief hands control to his son

By Leslie Crawford in Mexico City

Mr Emilio Azcárraga Milmo, chairman and president of Televisa, the largest media conglomerate in the Spanish-speaking world, has announced his retirement due to ill-health and named Mr Emilio Azcárraga Jean, his 29-year-old son, to succeed him.

However, Mr Azcárraga Jean – only the third chief executive officer in the Mexican company's 66-year history – is considered by many investors to be too inexperienced to take over the $3.9bn company. Last week, as it became clear that Mr Azcárraga Milmo would not be resuming full management responsibilities, Televisa's share price plunged by 10 per cent.

Traders said they were acting on one of Mr Azcárraga Milmo's most celebrated phrases. Asked why he had floated Televisa in 1991, the family patriarch, who became known as "El Tigre" (the tiger) following the company's aggressive expansion in the early 1990s, is said to have replied: "Have you met my son?"

Yesterday El Tigre, now 66 and convalescing from a heart ailment in California, said it was time for new blood to lead the conglomerate. But in an indirect acknowledgement of his son's inexperience, he also named Mr Guillermo Cañedo White, Televisa's chief financial officer, as chairman of the board and chief corporate officer.

The two men will share responsibility for day-to-day management of the company, but Televisa executives said control would rest with Mr Azcárraga Jean. The Azcárraga family controls 52 per cent of Televisa's voting stock.

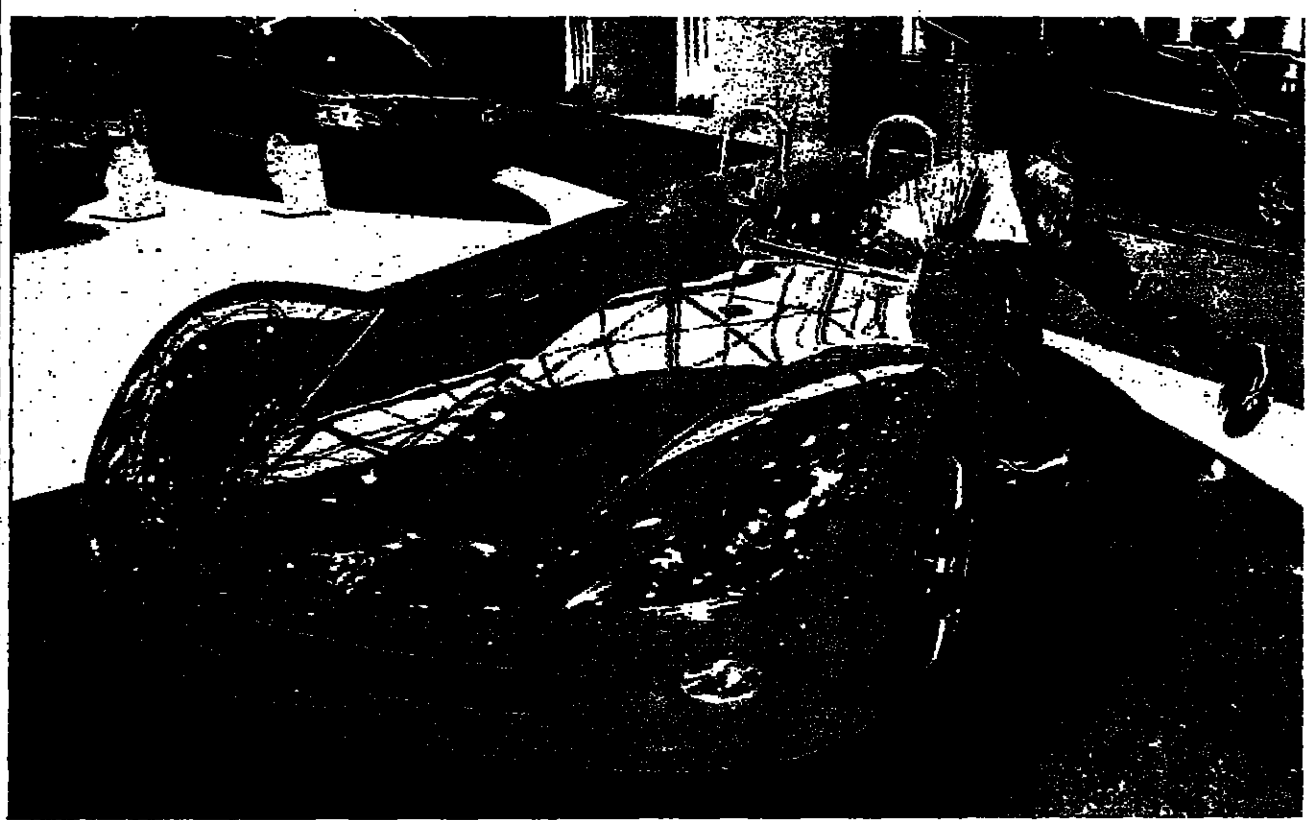
Mr Cañedo White has won respect for his efforts to streamline the conglomerate, which employs 20,000 people and produces more than 50,000 hours of programming a year.

Televisa's share price gained more than 5 per cent in early trading yesterday, but market analysts suggested the company was buying its own stock to neutralise any negative reaction to Mr Azcárraga Milmo's retirement.

Televisa's fourth-quarter results, published yesterday, were better than expected: a net profit of 172m pesos ($22m) in the final quarter of 1996, compared with an 111m peso loss in the same 1995 period. For 1996 as a whole, however, the company posted a loss of 598.5m pesos, against a 1.2bn-peso profit in 1995.

Sales, which plunged by 9.8 per cent during the 1995 recession, have yet to regain their pre-devaluation levels. Net sales in 1996 totalled 11.5bn pesos, a 2 per cent increase on 1995.

The company's financial costs fell significantly in the final quarter of 1996, thanks to the refinancing of a high-interest peso-denominated loan with a dollar loan bearing a lower rate of interest. For the year as a whole, however, the cost of servicing Televisa's 19.17bn-peso corporate debt and other financial costs increased by 380 per cent to 857m pesos.



A journalist inspects a prototype of Peugeot-Citroën's Asphalte yesterday at the Geneva Motor Show in Switzerland where the French group's chairman Jacques Calvet called for greater emphasis on shareholder value Picture: AP

$1.1bn profits forecast from Daimler Benz

German giant's recovery well ahead of market predictions

By Frederick Stüdemann in Frankfurt

Daimler Benz, the German industrial group, expects 1996 profits of at least DM2bn, ($1.1bn) well above market forecasts.

Mr Eckhard Cordes, Daimler board member responsible for corporate development, said the company expected 1996 sales to be around DM107bn, also an improvement on analysts' expectations of about DM103.5bn.

Speaking at the Geneva car show, Mr Cordes gave the clearest signal yet that the group was recovering well after record losses of DM5.7bn in 1995.

Daimler shares rose 3.6 per cent yesterday to close at DM128.20 – ahead of the DAX index which rose 86.35 to 3345.09.

Daimler is due to release audited figures next month. The company said it had seen marked improvement in 1996 following its heavy losses.

As part of a restructuring implemented by chief executive Mr Jürgen Schrempp, loss-making businesses such as aircraft makers Fokker and Dornier and parts of the AEG electrical engineering subsidiary were closed or sold.

The benefits had already begun to show at last year's halfway stage when the company reported profits of DM782m. The company was also helped by the strengthening dollar.

Analysts yesterday attributed much of the gains referred to by Mr Cordes to exchange rate factors.

Daimler Benz Aerospace (Dasa), the group's aerospace division, is likely to have been one of the main beneficiaries of the strengthening dollar. In 1995 a weak dollar prompted Mr Schrempp to implement a strict cost-cutting regime at Dasa.

Analysts welcomed the above-forecast improvement in Daimler's profits, but remained cautious on the overall success of Mr Schrempp's reforms. As well as dumping loss-makers and cutting jobs, Mr Schrempp has slimmed the number of Daimler's businesses from 35 to 23 and reintegrated the Mercedes-Benz car and truck subsidiary into the parent company.

The benchmark of 12 per cent return on capital which Mr Schrempp set for the group has yet to be achieved, though some divisions, such as Mercedes, are already above that.

Mr Schrempp's comments came at the unveiling of Mercedes Benz's new small car, the A-class, which is to be built in Germany and in Brazil at a rate of 200,000 a year. It will cost DM30,000 in Germany, company officials said.

Lex, Page 14; Seat, Page 16
Markets, Page 36

Peugeot-Citroën stresses share value

By Haig Simonian in Geneva

Mr Jacques Calvet, chairman of Peugeot-Citroën, yesterday called for greater emphasis on shareholder value at France's biggest vehicles group.

In a clear message to managers before his expected retirement later this year, he suggested that the turnround at the carmaker was not being reflected in the stock price.

"We need to have a sharper vision of the interests of shareholders," he said at the Geneva motor show.

However, Mr Calvet ruled out any special measures to boost its share price, in spite of attempts by some US rivals to raise stock value by spinning off non-core activities.

He said the uncertainties overshadowing Peugeot-Citroën's shares reflected the decline in the French car market this year and the financial problems at the rival Renault group, which is expected to announce a big loss for 1996.

However, he said there were signs that the collapse in French sales was bottoming out. New car orders fell 18 per cent last month compared with February 1996, an appreciably smaller fall than was recorded after the government's incentive programme to stimulate the market ended in September. Peugeot-Citroën expects French car sales to fall by about 10 per cent this year, while the west European market would be about 0.5 per cent down.

Mr Calvet said Peugeot-Citroën, unlike Renault, had no plans for plant closures and said this year's decline in the workforce through voluntary redundancies and retirements would remain at recent levels. "Nothing in our 10 year plan or our five year industrial plan implies any of our industrial sites are under threat of closure", he said.

In the UK, Peugeot-Citroën is investing more than £100m ($163m) to build a new small car at its Ryton plant. The vehicle, believed to be the successor to the Peugeot 205, should be launched in about 18 months.

Mr Calvet said a merger with Renault would be "suicide for both companies. It would roll out the red carpet for imports into France," he said. "A merger with another carmaker? Never, never, never and definitely not with another French carmaker".

Mr Calvet said Peugeot-Citroën was on course with plans to expand its activities in South America. The group has whittled down the list of possible Brazilian sites for a car factory to two states and will decide before the summer.

Sony seeks to lift its stake in ad agency

By Michiyo Nakamoto in Tokyo

Sony, the consumer electronics and entertainment group, may increase to up to 70 per cent its stake in a Japanese advertising agency to help market its products in new media, such as the internet and satellite broadcasting.

Sony is in talks with the Tokyu group, headed by Tokyu Corp, to raise its 12.5 per cent stake in Tokyu Agency International, an agency that has worked for a number of Sony companies.

Sony, which is also in talks to take a stake in JSkyB, a digital multi-channel satellite broadcasting business set up by News Corporation and Softbank, is expected to acquire additional shares in TAI from other Tokyu companies, which jointly own 51 per cent.

The size of its stake and the price were being negotiated, Sony said.

It denied it intended to bring its advertising contracts, worth hundreds of billions of yen, in-house. "We plan to continue to use external agencies," Sony said.

Tokyu Agency International, was established as a sister company to Tokyu Agency, a prominent advertising agency, to focus on international business. It had sales of Y32bn ($265m) in 1995 and more than 300 employees.

Analysts were surprised at Sony's move but said the price it was expected to pay for the increased stake was small for a company of Sony's size.

Sony cuts price of games machine, Page 20

De Beers makes plans in case of diamond shortage

By Mark Ashurst in Cape Town and Kenneth Gooding in London

De Beers, the South African group that dominates the global diamond business, is making contingency plans in case a shortage of gem diamonds develops at the turn of the century.

That was revealed yesterday by Mr Julian Ogilvie Thompson, De Beers' chairman, after the group reported a 33 per cent increase in attributable earnings for 1996.

Analysts have suggested that Russian stocks of rough or uncut gem diamonds might run out as early as next year, leaving the market short from 2000 onwards even though new production will then be coming on stream in Canada's Northwest Territories.

Formalities for Russia's return to the rough diamond marketing cartel organised by De Beers' London based Central Selling Organisation could be completed within one to three months, said Mr Gary Ralfe, managing director of the CSO. He hoped a deal would be signed off by both Mr Viktor Chernomyrdin, Russia's prime minister, and President Boris Yeltsin.

De Beers unilaterally ended the formal relationship in December after waiting a year for a new contract. That contract was supposed to last for three years from January 1996 but Mr Ralfe suggested a new starting date might be arranged.

It was also the intention to have a contract that could easily be renewed, should it function efficiently in the early stages, thus eliminating the need for further tortuous negotiations.

Mr Ogilvie Thompson said De Beers did not know how long the Russian stocks would last. Neither did De Beers know how quickly the new producers in Canada would build up output. But "we have been looking at where we could increase production if necessary. We are doing some medium term planning," he said.

He pointed out that Debswana, a 50-50 company owned by De Beers and the government of Botswana, had already embarked on a $290m (£177m) project to double annual output at the Orapa mine in the north east of that country to 12m carats by 2000. It was unlikely that the old mines in the Kimberley area of South Africa could be expanded, but there were possibilities at the newer Finch and Venetia mines.

De Beers said global demand for rough diamonds remained robust, particularly for bigger stones, in spite of a weakness in Japan, one of the biggest retail markets.

Analysts had expected a strong financial performance from De Beers after the CSO in December reported record 1996 rough diamond sales of $4.83bn.

De Beers said its attributable earnings increased from 164 US cents to $218 cents. The dividend is being raised by 10.5 per cent to 102.7 cents.

De Beers sales up, Page 16

UPM-Kymmene meets forecasts

By Hugh Carnegy in Stockholm

UPM-Kymmene, Europe's biggest pulp and paper group, yesterday reported a 43 per cent fall in profits in 1996 as the Finnish company suffered from the industry trend of falling prices and weak demand.

Profits before extraordinary items and taxes fell from FM6.3bn to FM3.55bn ($700m) on sales down from FM54.7bn to FM51.7bn. This was caused by a fall in prices for pulp and fine papers to well below 1995 levels and a slide in newsprint and magazine paper prices.

Earnings per share fell almost 50 per cent, from FM20.09 to FM10.24. The company said it expected 1997 profits to be similar.

But UPM-Kymmene's share price rose sharply on the news, closing up FM4.10 on the day at FM109 as investors reacted positively to a report that was in line with market expectations.

Although profits were far below the record levels of 1995, UPM-Kymmene outperformed almost all of its European and North American rivals last year. It returned an operating margin of 10.8 per cent and a return on equity of 11.1 per cent – a far cry from the deep losses many Finnish forestry groups made in the previous pulp and paper downturn in the early 1990s.

Investors also apparently welcomed UPM-Kymmene's announcement that it would pay the bulk of its 1996 FM1.2bn dividend in the form of shares in Rauma, the group's 73 per cent-owned forest industry machinery and engineering group.

UPM-Kymmene is to reduce its stake in Rauma through the issue to less than 60 per cent.

The share-dividend means UPM-Kymmene will bolster its financial position by avoiding a big cash payout. Cash flow grew from FM6.7bn in 1995 to FM7.4bn in 1996. The group's equity to assets ratio at the end of the year was 41.4 per cent and the gearing ratio was 93 per cent. It had unused credit facilities of FM6.7bn.

UPM-Kymmene increased operating profits in its newsprint and packaging divisions in 1996. But profits fell in all other main operations – including magazine papers, the biggest division, which slipped from FM2.8bn to FM2bn, while profits in the fine papers arm tumbled from FM719m to FM85m. The biggest setback was in the pulp unit, which swung from a profit of FM2.2bn in 1995 to a loss of FM176m.

The company said that it believed prices for newsprint, magazine and writing papers had bottomed out.

It hoped for a rise in fine paper prices during the first quarter.

HPI set for flotation

By Paul Betts in Milan

Holding di Partecipazioni Industriali, the company born from the split of Gemina, the Italian investment group, has cleared the way for a stock market flotation this month by appointing its board.

The line-up, announced yesterday, is a "Who's Who" of the *salotto buono* – the cream of Italy's business community. It is headed by Mr Nicolo Nefri, a former chief executive of Rinascente, the Italian retailer controlled by Ifil, the Agnelli family holding.

HPI, which has absorbed the bulk of Gemina's industrial portfolio, says it is ready for a stock market debut this month.

Gemina has been shaken over the past two years by financial scandals and its failure to merge with Ferruzzi Finanziaria (Ferfin).

The new board's task will be to pilot HPI's introduction on the bourse and strengthen its strategy around two broad core businesses – clothing and fashion activities, and publishing and paper.

Consob, Italy's stock market watchdog, has already approved HPI's listing. The new company's ordinary shares have been attributed a value of L1,050 and the savings shares, L1,000.

At these prices, the stock exchange council has estimated HPI's market capitalisation at L2,815.4bn ($1.66bn).

Holders of both Gemina ordinary and savings shares will receive nine HPI shares for every 10 of Gemina's.

HPI appears intent on expanding the clothing business, through which it controls Fila, the successful New York-listed sportswear company, and Gruppo Finanziario Tessile, which makes clothes for leading Italian fashion houses such as Armani and Valentino.

With nearly L1,000bn in liquid assets, HPI is looking for acquisitions in the luxury goods sector. Gemina is understood to have been in talks with Marzotto, one of Italy's leading textile groups, which also controls the German Hugo Boss clothing group.

Marzotto, whose annual sales are more than L2,300bn – making it the country's second-largest clothing group, after Benetton – is itself studying a corporate reorganisation, which could ultimately provide the vehicle for a link with HPI.

HPI's other assets include RCS, which owns the Rizzoli publishing house, and the Corriere della Sera newspaper and periodicals group, and a 20.87 per cent stake in Cartiere Burgo, the Italian paper manufacturer.

Gemina has also transferred to HPI stakes in Pirelli, the SMI metals group, Credito Italiano, Banca Commerciale Italiana, and insurer Generali.

Cofir and Accor in hotels joint venture

By Tom Burns in Madrid

Cofir, the listed Spanish drinks and hotels group, has reached an agreement with France's Accor to launch a chain of two-star hotels in Spain.

The chain will be owned by a joint venture formed by Sphere, an Accor subsidiary which controls the French group's lower-segment hotels, and NH Hoteles, the Cofir-controlled unit that operates a network of mostly four-star city hotels.

The venture, which has an initial subscribed capital of Pta2bn ($13.9m), plans to open about 70 two-star hotels under Accor's Ibis brand name over the next seven years.

The agreement finally gives Accor a strong presence in Spain, where the lower-segment hotel market has still to be exploited. The French group has opened hotels in Madrid under the aegis of its up-market divisions, Novotel and Sofitel, but had been searching for a local partner in the two-star market.

The venture strengthens Cofir's efforts to build up its hotel business. NH Hoteles outbid Hilton International – the hotel division of the UK's Ladbroke group – last month to acquire the Eurobuilding, a luxury 480-bed Madrid hotel, for Pta6.8bn. Cofir's hotel unit, which is estimated to have earned Pta930m on sales of Pta19.3bn last year, now plans a similar upmarket acquisition in Barcelona.

Cofir, which was controlled by Italian financier Carlo de Benedetti until last year, is due to appoint Mr Oscar Fanjul, the former chief executive of the Repsol oil conglomerate, as non-executive chairman later this month.

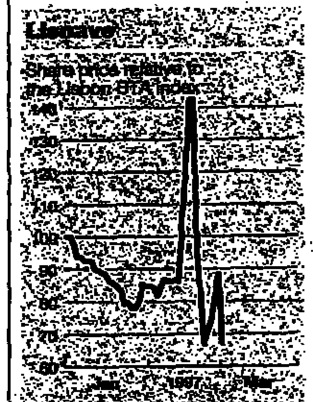
Lisnave capital to be cut by 90%

By Peter Wise in Lisbon

Shareholders in Lisnave, Europe's biggest shiprepair company, are to bear the cost a 90 per cent capital reduction aimed at lifting the group out of bankruptcy.

The reduction in share capital from Es35.6bn to Es3.56bn ($20.9m) is to be made ahead of a government-backed restructuring plan to cut wage costs and move the company out of debt.

After falling 24.7 per cent on Monday to Es320, the shares recovered slightly yesterday to close at Es333. They had risen to a record of Es746 on February 18 on news of the shake-up.



But they plummeted after Mr José de Mello, Lisnave president, said in a television interview on Saturday that the company was bankrupt and shareholders would have to bear the losses of a capital reduction. The Mello group owns 48 per cent, with the state holding 15 per cent.

Under the plan, the group is to be split into two companies. The state will become the majority shareholder in a "human resource management" company that is expected to employ more than half of Lisnave's 3,200 employees.

The Mello group is to be the majority shareholder in a second company, which will continue Lisnave's shiprepair activities.

Blohm & Voss, the German shipbuilding group, is also understood to be considering becoming a strategic partner.

The reorganisation will relieve Lisnave of heavy wage costs, enabling it to adjust its workforce to market demand by hiring workers on a temporary basis from the state-owned human resources company.

By creating this company – which will hire out workers to other companies and retrain Lisnave employees – the state will avoid making workers redundant. However, it will also assume the costs of reducing Lisnave's workforce.

EUROPEAN NEWS DIGEST

Carlsberg widens Coca-Cola deal

Carlsberg, the Danish brewery group, has concluded an agreement with Coca-Cola, the US soft drinks maker, for the bottling, sale and distribution of Coca-Cola products in Sweden and Denmark, with an extension to Norway expected. The deal follows Coca-Cola's decision last summer to end its co-operation with the Swedish-Norwegian Pripps-Ringnes group after 44 years with Pripps and 58 years with Ringnes.

Carlsberg already bottles and distributes Coca-Cola products in Denmark through a subsidiary, Dadeko, which had a turnover of DKr1.2bn ($185m) and operating profits of DKr109m in 1995-96. Dadeko accounts for most of Carlsberg's Danish soft drinks sales of 2.4m hectolitres a year. Mr Walther Paulsen, Carlsberg chief financial officer, said both the Norwegian and the Swedish markets for Coca-Cola products were about 1.5 times the size of the Danish market.

"This agreement signals some very important prospects for Carlsberg's future in markets where continued growth in the sale of non-alcoholic beverages is expected," said Mr Flaming Lindelov, who became Carlsberg chief executive at the beginning of this year.

Hilary Barnes, Copenhagen

Tax probe at DG Bank

German prosecutors yesterday launched an investigation into DG Bank, the umbrella organisation for the country's co-operative banks, following suspicions it may have been involved in helping German residents evade tax by sending money abroad. The probe is the latest in a series of investigations by German authorities into banks suspected of aiding tax evasion.

DG Bank said a team of about 100 tax inspectors and employees from the Bielefeld state prosecutor's office had searched its Frankfurt headquarters for evidence that its internal payment system may have been used to make anonymous capital transfers to Luxembourg. DG Bank has no private customers of its own but acts as a clearing house for the country's 2,500 co-operative banks. The probe, which covers tax statements dating back to 1991, is at an early stage and could take several years, DG Bank said.

Sarah Althaus, Frankfurt

MobilCom to raise DM40m

MobilCom, the German mobile telephone network specialist, plans to raise as much as DM40m ($23.6m) in what will be the first issue on the Neuer Markt, the German stock exchange's new growth market which is due to start trading on March 10. MobilCom said this week it would issue 480,000 new shares, with a "greenshoe", or over-allotment option, providing for a possible further 160,000 shares. Book-building – in which the interest of institutional investors is assessed in advance – will run until tomorrow when the issue price will be announced. The price range for the shares is DM52.50–DM62.50. The Neuer Markt is aimed at young, innovative companies in rapid growth sectors which might otherwise have ignored the bourse, or have opted for a listing on Nasdaq, the computerised US exchange. It will eventually be linked with similar ventures in Paris, Brussels and Amsterdam, which are combining to form the Euro.NM, a rival to Nasdaq and Easdaq, its European counterpart.

Sarah Althaus

Aerospatiale sell-off urged

Mr Serge Dassault, president of the Dassault group, said yesterday he would push for the privatisation of state-owned Aerospatiale, once merger negotiations with his own privately-controlled Dassault Aviation were complete. "We will do all we can for the privatisation of Aerospatiale by the end of this year," Mr Dassault said yesterday. The group, formed from the merger of Aerospatiale and Dassault, will remain under state control, because Mr Dassault will hold only a minority stake. But the government has already said it wants to privatise Aerospatiale.

David Buchan, Paris

Three link for airport bid

Hochtief, the German construction company, ABB and Siemens yesterday said they would form a consortium to bid for the development of a new international airport in Berlin. As well as financing the project, the consortium would oversee the planning, construction and operation of Berlin-Brandenburg International airport, which will cost DM10bn ($5.9bn) and provide capacity for 20m passengers a year.

The project, due to be completed by 2010, will be Germany's first privately financed large-scale airport. The three companies worked together on a similar airport project in Athens.

Frederick Stüdemann, Frankfurt

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Mixed results in Thai telecoms

By Ted Bardacke in Bangkok

Thai telecommunications companies reported mixed results, as mobile operators showed healthy growth but fixed-line companies suffered heavy start-up costs, contributing to a 3.33 per cent drop in the value of communications stocks yesterday.

Telecom Asia, the country's biggest telecoms group, said it lost Bt1.92bn ($74.1m) in 1996, compared with a profit of Bt1.29bn in 1995.

The company, which has a concession to install and operate 2.6m telephone lines in the Bangkok area, is rapidly expanding into other business ventures.

However, its telephone lines suffered from low subscription rates in the early part of the year. As a result, expenses increased 70 per cent on the year before to Bt13.9bn, partly as result of start-up costs at its cable-television subsidiary, UTV. Revenues were up 28 per cent to Bt12.1bn.

UTV is expected to reach break-even in the second half of this year, the company said, but it will soon begin another capital expenditure programme to launch a personal handyphone service.

Thai Telephone & Telecommunication, which has a concession to install and operate 2m lines in the provinces, said its net profit fell 49 per cent in 1996 to Bt424.2m. Analysts attributed the fall to cost overruns of 13-20 per cent on its concessions, which increased amortisation and interest costs.

The subscription rate of TT&T's 1m installed lines is high, at about 90 per cent, in contrast to Telecom Asia. However, revenue per line is 60 per cent below budget, according to W. I. Carr, the stockbroker.

United Communication, parent company of Singapore-listed mobile operator Total Access Communications, reported net profit down 14 per cent in 1996 at Bt2.4bn. Analysts had been expecting negative profit growth because of projects unrelated to TAC, which reported a 43.6 per cent increase in net profits to Bt2.74bn.

Advanced Info Service saw net profit climb 19 per cent to Bt3.56bn in 1996. Parent company Shinawatra Computer and Communications said its net profit in 1996 fell 20 per cent to Bt2.63bn.

Japan shows there are limits to Sky

The speed with which Mr Rupert Murdoch, chairman of News Corporation, and his Japanese partner, Mr Masayoshi Son, relinquished their 21.4 stake in TV Asahi surprised the Japanese media almost as much as the news that the two had acquired it.

On Monday, Mr Murdoch and Mr Son, who heads Softbank, the company involved in computer software and Internet-related businesses, announced they would sell their jointly-owned stake in the national broadcaster to Asahi Shimbun, the national daily newspaper which like TV Asahi belongs to the Asahi group.

To Japanese observers there was no doubt that the decision indicated that the two entrepreneurs had miscalculated.

The partners, who have jointly set up a digital satellite broadcasting operation in Japan, JSkyB, thought that by taking a stake in TV Asahi they could secure domestic programming. "The original reason for buying the share in TV Asahi was for the success of JSkyB," Mr Son explained.

Mr Murdoch, the most successful operator of digital satellite broadcasting, believes JSkyB needs the co-operation of Japan's dominant terrestrial broadcasters. The five national broadcasters, including the public broadcasting company NHK, make as much as 20 to 30 per cent of their own programmes. They also have broadcast rights to many programmes commissioned from outside producers.

Picture: AP

Muneyuki Matsushita (centre), president of Asahi Shimbun, with Masayoshi Son and Rupert Murdoch on Monday after they agreed to sell him their joint stake in TV Asahi

Both Mr Murdoch and Mr Son underestimated the closed and inward-looking nature of Japanese broadcasting, where the mere presence of a foreigner – Mr Son is of Korean descent – is enough to trigger alarm. In a characteristic show of solidarity, Asahi closed ranks against its unwelcome investors. Asahi Shimbun did not hide its consternation at the emergence of a large shareholder in a group company in which it owns a 31.4 per cent stake. It took particular offence that it had not been consulted. Mr Muneyuki Matsushita, Asahi Shimbun president, commented: "The way in which News Corp and Softbank entered the [Japanese] broadcasting industry was somewhat unique."

Asahi Shimbun was concerned that, if and when restrictions on foreign ownership of broadcasters are lifted, Mr Murdoch might acquire TV Asahi, says Mr Takashi Murakami, media analyst at the Daiwa Institute of Research in Tokyo.

The suspicion with which News Corp and Softbank were regarded by the Asahi group prevented the team from sending directors to TV Asahi. Mr Murdoch and Mr Son therefore decided they were more likely to get Asahi to co-operate with JSkyB if they sold the stake to Asahi Shimbun.

Mr Murdoch conceded: "As an outsider coming in to this country, I know the importance, in setting up JSkyB, of having friendly relations with Asahi Shimbun."

The move will help mend fences with the Asahi group. Whether it will help JSkyB in the already competitive satellite market is uncertain.

JSkyB is starting a nine-channel service in April, but will not reveal whether it has signed up any programme providers. This raises questions about its ability to sign up enough programme providers for the 150 channels it plans to offer next spring.

Japan's terrestrial broadcasters, whose co-operation Mr Murdoch has courted so publicly, plan to enter satellite broadcasting themselves when Japan's next satellite is launched in 2000.

Terrestrial broadcasters are not taking satellite broadcasting seriously now, because it will not be a threat for another five to 10 years, says Daiwa's Mr Murakami. But Mr Paul Smith, industry analyst at HSBC James Capel in Tokyo, believes the three digital satellite broadcasters which will be competing in Japan – PerfecTV, DirecTV and JSkyB – could face strong competition if the terrestrial broadcasters join with NHK when they move into satellite.

NHK already has two satellite channels claiming 10m viewers. If it decides to scramble its signals, the terrestrial broadcasters might decide to use the same decoder as NHK, making it a de facto standard.

Furthermore, in spite of its access to News Corp's film library and the music and movie assets of Sony, which plans to take a large stake in the venture, JSkyB does not yet have "killer" content to lure viewers.

The "killer" content will probably have to be sports, most likely baseball. But terrestrial broadcasters that own the rights to the most popular Japanese baseball games are unlikely to give them up easily.

For Mr Murdoch and Mr Son, who are used to getting what they seek, the first obstacle they have stumbled over is unlikely to be the last.

Michiyo Nakamoto

Sony cuts price of games machine

By Michiyo Nakamoto in Tokyo

Sony has reduced the price of its popular video games player, the PlayStation, in North American and European markets in an attempt to expand market share.

The price of the PlayStation, the 32-bit video games machine made by Sony Computer Entertainment, has fallen from $199 to $149 in North America and from £199 to £129 ($209) in the UK. Prices are also being lowered this month in other European markets.

Sony said it had decided to cut the price of the PlayStation to expand the machine's target audience. By February 14 it had shipped 3.8m units in North America and demand was strong.

Sony's lead over its rival Nintendo is not as large in North America as in Japan. Nintendo, which fell behind Sony in bringing out a video games machine based on an advanced technology, launched its 64-bit games machine in North America in September. More bits means that more information is stored in the machine, which affects, for example, the quality of the images.

In Japan, Sony launched the PlayStation a year and a half before Nintendo launced its 64-bit machine. To date, Sony has sold 5m units in the domestic market, against sales of 1.85m for the Nintendo machine.

Sony has been helped by its strategy of wooing independent software producers, and by its marketing and successive price cuts. However, competition in the Japanese market is expected to increase.

Nintendo's 64-bit machine has suffered from a lack of software and a high price, but the company said last month it would fight back by cutting the price of its 64-bit machine by 33 per cent to Y16,800 ($139) – less than Sony's Y19,800.

ASIA-PACIFIC NEWS DIGEST

Lippo Securities' net income surges

Lippo Securities, the Indonesian brokerage, said its unaudited net profit for 1996 rose more than 180 per cent, reflecting a trend among broking firms in Indonesia, which have profited from sharp increases in the Jakarta stock market's capitalisation and from rapid growth in trading volumes last year.

Lippo Securities' net income was Rp40.4bn ($16.8m), compared with Rp14.1bn a year earlier. The broker, which is part of the Lippo Group, one of Indonesia's largest conglomerates, said it expected net profit of Rp87bn this year. A restructuring of Lippo Securities, which involved the company lifting its stake in the insurance company Lippo Life from 4.9 per cent to 32 per cent, is believed to have helped lift earnings as a result of "other income" contributions.

However, Mr Jos Parengkuan, research director at Lippo Securities, said the rise in earnings came mainly from an increase in stockbroking income, as the company set up a retail investor division at the beginning of 1996. Small investors have become more active on the Jakarta stock market in the past year as liquidity has improved. "Prior to 1996 there was virtually no retail volume and all volume came from institutional clients," Mr Jos said. Last year, however, broking commission from retail investors at Lippo Securities accounted for approximately 35 per cent of total broking commissions.

In 1996, the Jakarta Stock Exchange's market capitalisation grew 41.2 per cent to Rp215,000bn, while the average daily trading volume rose by just under 130 per cent to Rp301,100bn. In line with these developments, Lippo Securities said its market share in terms of trading volume grew from 3 per cent the year before to 7.3 per cent in 1996.

Manuela Saragosa, Jakarta

Thai building group down 5%

Italian-Thai Development, south-east Asia's largest construction company, said yesterday its net profit in 1996 was Bt1.52bn ($58.6m), down 5 per cent from a year earlier. The company did not release full financial details, but analysts said the result was far below expectations. With revenues and margins stable, the fall was probably due to a drop in other income, they said, as the company drew down cash and saw lower gains from its holdings in Thai- and Philippines-listed companies.

Ted Bardacke, Bangkok

Equitable Bank IPO price set

The price set for the initial public offering of Equitable Bank, the Philippines' ninth-largest bank, surprised analysts, who said it was higher than the market expected, but that the offering would still be attractive, as it ended a long spell of unexciting floats. Equitable Bank will raise 7bn pesos ($266m) through its issue of 62m shares at 113.3 pesos a share, pricing it at more than 19 times projected earnings for 1997. The group's bottom line is forecast to double to 2bn pesos this year because of an increase in funds as a result of the IPO.

"This [price] is higher than the market expected and looks too high to me," one analyst said. "But there has also been a very good response, because this is a big and very liquid issue and it's been some time since we had one of those." The bank will use proceeds to add to its capital base, expand its local branch networks and fund loan growth.

The offer period begins today. Listing is set for April 3.

Justin Marozzi, Manila

Global Leadership in the Media Sector

Selected 1996 Capital Raising Initiatives

$750,000,000 — TIME WARNER
$165,923,000 7.48% Debentures; $150,000,000 8.05% Debentures; $400,000,000 6.85% Debentures; $34,077,000 8.30% Discount Debentures
Lead Manager — January 11, 1996

$500,000,000 — K-III
$300,000,000 8½% Senior Notes; $200,000,000 Exchangeable Preferred Stock 144A Offering*
Joint-Lead Manager — January 18, 1996

$500,000,000 — TELE-COMMUNICATIONS, INC.
8.72% Trust Originated Preferred Securities℠ ("TOPrS")
Co-Manager — January 25, 1996

$300,000,000 — TCI² Tele-Communications International
4½% Convertible Subordinated Debentures
Co-Manager — February 1, 1996

$1,000,000,000 — TELE-COMMUNICATIONS, INC.
$400,000,000 6.875% Senior Notes; $600,000,000 7.875% Senior Notes
Co-Manager — February 7, 1996

$650,000,000 — CABLEVISION
Depositary Shares
Co-Manager — February 8, 1996

$51,221,250 — Times Mirror
Participating Equity Preferred Stock℠ ("PEPS") of Netscape Communications
Sole Manager — March 13, 1996

$2,600,000,000 — Walt Disney
$1,300,000,000 6⅜% Senior Notes; $1,300,000,000 6¾% Senior Notes
Co-Manager — March 22, 1996

$1,600,000,000 — TIME WARNER
Exchangeable Preferred Stock 144A Offering*
Joint-Lead Manager — April 4, 1996

$700,000,378 — Grupo Televisa, S.A.
$200,000,000 - 11⅜% Senior Notes; $200,000,000 - 11⅞% Senior Notes; $300,000,378 13¼% Senior Discount Debentures 144A Offering*
Lead Manager — May 8, 1996

$250,000,000 — CABLEVISION
10½% Senior Subordinated Debentures
Co-Manager — May 15, 1996

$500,000,000 — TELE-COMMUNICATIONS, INC.
10% Trust Preferred Securities
Co-Manager — May 17, 1996

$300,000,000 — TELE-COMMUNICATIONS, INC.
7.25% Notes
Co-Manager — June 5, 1996

$432,400,000 — TCG
Class A Common Stock
Co-Manager — June 27, 1996

$32,000,000 — c|net
Common Stock
Lead Manager — July 1, 1996

$1,279,540,000 — MEDIASET
Ordinary Shares and American Depositary Shares 144A Offering*
Joint-Lead Manager — July 8, 1996

$100,179,660 — KABELMEDIA
13⅝% Senior Discount Notes
Lead Manager — July 31, 1996

$48,000,000 — TOY BIZ
Class A Common Stock
Lead Manager — August 7, 1996

$200,000,000 — Cinemark USA, Inc.
9⅝% Senior Subordinated Notes 144A Offering*
Co-Manager — August 14, 1996

$216,096,500 — Univision
Class A Common Stock
Co-Manager — September 26, 1996

$159,562,500 — COX RADIO, INC.
Class A Common Stock
Co-Manager — September 27, 1996

$275,625,000 — EVERGREEN MEDIA CORPORATION
Class A Common Stock
Co-Manager — October 17, 1996

$222,923,072 — MULTICANAL
American Depositary Shares
Joint-Lead Manager — October 31, 1996

$148,000,000 — Times Mirror
7½% Debentures
Co-Manager — November 7, 1996

$235,200,000 — GROUPE AB
Ordinary Shares and American Depositary Shares
Co-Lead Manager — December 11, 1996

$67,200,000 — TMP Worldwide
Common Stock
Lead Manager — December 12, 1996

$165,375,000 — CAPT
Ordinary Shares and American Depositary Shares
Co-Manager — December 13, 1996

$150,000,000 — EchoStar
10¼% Senior Notes 144A Offering*
Lead Manager — December 16, 1996

Selected 1996 M&A Assignments

PanAmSat has agreed to combine with **Hughes Communications Galaxy** — Pending

Renaissance has agreed to be acquired by **Tribune Company** — Pending

American Radio Systems has agreed to acquire **EZ Communications** — Pending

Gruppo Fininvest FININVEST has sold a 25% interest in **Gestevisión Telecinco** to a group of investors led by **Grupo Correo**

Times Mirror has exchanged its **Higher Education Subsidiary** for the **Shepard's Unit** of **McGraw-Hill**

TIME WARNER has merged with **Turner Broadcasting System**

REED ELSEVIER has acquired **Tolley Publishing**

GLOBOPAR has acquired a strategic stake in **Net São Paulo**

PointCast has sold Series D Preferred Stock to **Strategic Investors**

Granum Communications, Inc. has been acquired by **Infinity Broadcasting**

MEDIASET has joined the telecommunications joint venture of **Albacom**

The Thomson Corporation has acquired **West Publishing**

SOFTBANK CORP. has acquired **Ziff-Davis Publishing**

CABLEVISION CVI INDUSTRIES has been acquired by **Time Warner**

MORGAN STANLEY

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Shares rise on final-quarter results but market disappointed by full-year performance

Viacom chief sees progress

By Richard Waters in New York

Viacom, the US entertainment group, ended a troubled 1996 on a positive note with fourth-quarter earnings that exceeded the most recent stock market expectations, according to figures published yesterday.

However, compared with the $1.40 a share in profits that Wall Street once thought possible for all of 1996, its actual full-year earnings on continuing operations of 30 cents a share were disappointing.

The New York-based company's shares rose $¾ to $37¼ on the news. However, they remain well below their peak of 1994, when the purchases of the Paramount film studio and Blockbuster video rental company propelled Viacom into the front ranks of US entertainment and publishing groups.

Mr Sumner Redstone, chairman, said the latest figures showed that Viacom had made "significant operational progress in the year". However, the stock market has yet to be convinced that Mr Redstone, who built the company and still controls a majority of its voting stock, can live up to the ambitious plans he put forward in the early 1990s.

The company's latest figures reflected a bounce in underlying earnings in several Viacom businesses, particularly its film studios and its MTV television network. However, it continued to struggle with Blockbuster's loss-making music retailing business.

For the quarter, Viacom's television networks and broadcasting unit, which includes MTV, generated earnings before interest, tax and depreciation – or Ebitda, the most widely followed measure of earnings for such companies – of $253m, a rise of 40 per cent from the year before. Revenues rose 23 per cent to $703m.

The entertainment division, which includes Paramount, nearly doubled Ebitda to $81m as revenues rose 34 per cent to $1.1bn. Publishing operations, based around Simon & Schuster, returned Ebitda of $99m, a rise of 20 per cent, as revenues increased 12 per cent to $641m.

In contrast, the entertainment unit, which includes Blockbuster, saw Ebitda fall 52 per cent to $89m, while revenues rose 18 per cent to just over $1bn.

Viacom reported overall net income from continuing operations of $17m, or 1 cent a share, for the quarter, compared with a loss of $12m a year earlier. Including discontinued operations, it lost $227m, or 68 cents a share.

Full-year reported earnings were $1.2bn, or $3.23, thanks to a profit on the spin-off of the company's cable television operations.

Sumner Redstone: yet to convince stock markets AP

Conrail concedes defeat over CSX merger

By Richard Tomkins in New York

The three big eastern US railroads yesterday started to thrash out details of a $10.5bn merger that will reduce their number to two and set the stage for a final round of mega-mergers with the two big railroads in the west.

Late on Monday night, Conrail, the smallest of the three eastern railroads, conceded defeat in its efforts to seal a friendly $9.4bn cash-and-stock merger with CSX, the biggest eastern railroad, on the terms originally planned.

Instead, Conrail will be broken up between CSX and Norfolk Southern, the second-biggest eastern railroad, so providing CSX and Norfolk Southern with equal access to the New York market, which is currently dominated by Conrail.

Norfolk Southern had made a $10.5bn hostile bid for Conrail. Under the solution now proposed, CSX will match Norfolk Southern's $115-a-share cash offer, acquire Conrail, and partially recoup its outlay by selling about half of Conrail's routes to Norfolk Southern.

Mr John Snow, chairman and chief executive of CSX, said: "We look forward to these negotiations with great anticipation, fully expecting to resolve these issues and bring forth a proposal that will serve the best interests of all constituents and provide a pro-competitive solution in the east."

The deal will require the approval of all three companies' shareholders, and of the Surface Transportation Board, the federal regulatory authority.

If approved, it will create two balanced railroad networks in the eastern US, much as a similar wave of mergers in the west has resulted in the creation of two big railroads: Union Pacific and Burlington Northern Santa Fe.

Many railroad analysts believe it will then be only a matter of time before the eastern railroads and the western ones seek to pair off, creating two vast transcontinental railroads.

Until now, such a development has not proved attractive, because Conrail's independent existence has blocked access to the New York market, one of the biggest sources and destinations of freight traffic in the US.

The deal now proposed appears to leave Mr David LeVan, Conrail's chairman and chief executive, without a job. He had been due to take a top management position at the combined CSX-Conrail company, but will probably receive a large pay-off instead.

AMERICAS NEWS DIGEST

Tenneco plans automotive revamp

Tenneco, the US motor components and packaging group, yesterday announced a wide-ranging overhaul of its automotive division in a $100m restructuring. The company, one of the world's largest manufacturers of exhaust and ride control systems, said it would be merging its two manufacturing subsidiaries – Monroe and Walker – and cutting up to 5 per cent of its 22,000-strong workforce. Most of the jobs are expected to go as the group removes overlap in administrative functions such as finance and human resources.

In a separate statement, Mr Thomas Evans, president of Tenneco Automotive, said the reorganisation would make it easier to "graft on" acquisitions in North America and Europe. He said the group was considering two or three deals of up to $400m each, adding that acquisitions were likely to continue at the same pace which saw 16 bolt-ons in the past year. Yesterday's announcement marks the latest stage in the protracted restructuring of Tenneco, which last year floated off its Newport News Shipbuilding division and merged its energy activities with El Paso Energy.

Tim Burt, London

Microsoft combats loophole

Microsoft programmers are working "around the clock" to plug a security loophole in the company's Internet Explorer browser program, used on millions of personal computers to access the World Wide Web. A fix for the problem should be available within 48 hours, Microsoft said on Monday.

The security loophole is the latest in a series of problems that have affected browser software, creating widespread concerns among users of the Internet. "We never like to see this kind of problem, because it undermines public confidence," said Mr Eric Greenberg, senior security product manager at Netscape Communications, the leading supplier of Internet software. Users of Netscape software were not affected.

The bug was discovered by Mr Paul Greene, a student at Worcester Polytechnic Institute in Massachusetts, and could enable a malicious Web page creator to plant a damaging program on the hard disk of a PC without the knowledge of the PC user. Microsoft confirmed that all users of Internet Explorer versions 3.0 and 3.01 running on Microsoft's Windows 95 and Windows NT operating systems were potentially vulnerable.

Louise Kehoe, San Francisco

Kruger buys Scott Paper

Kruger, a family-owned international newsprint, coated paper, packaging and tissue group, is buying Scott Paper, the Canadian tissue products maker, for a total C$450m (US$329m). Kimberly-Clark of Dallas, which owns 50.1 per cent of Scott, has accepted Kruger's bid of C$23 a share, made up of C$15.50 cash and C$7.50 in notes. The total price includes assumption of C$100m Scott debt.

Scott's shares closed on Monday at C$23.55. Last August, when the price approached C$30, management warned that market expectations were excessive. Kimberly-Clark bought Philadelphia's Scott Paper for US$9.4bn in late 1995, taking a dominant position in several tissue markets. It was required to sell some brands and mills and in April 1996 decided to sell the Canadian subsidiary, with one mill in British Columbia and three in Quebec.

Kruger has revenues of about C$1.5bn. It has 1.25m tons of newsprint and magazine paper capacity, plus packaging plants, mostly in eastern Canada. In 1996 Scott Paper earned C$25.7m, or C$1.68 a share, on revenues of C$486m.

Robert Gibbens, Montreal

Strong sales lift La Moderna

Empresas La Moderna, the Mexican tobacco, biotechnology and packaging group, yesterday announced a 20 per cent increase in sales and an 8 per cent increase in net profits for 1996. Sales were 14.3bn pesos ($1.78bn) last year, with cigarettes accounting for 46 per cent of revenues and 36 per cent of profits. Cigarette exports earned $47m in 1996, a 38 per cent increase over 1995. Domestic sales growth was more sluggish, at only 3 per cent.

Its agro-biotechnology division, which produces fruit and vegetable seeds as well as fresh produce for export, has grown significantly over the past three years and now contributes 45 per cent of La Moderna's total revenues, as well as 39 per cent of the company's profits. La Moderna's packaging division accounts for 9 per cent of sales and 25 per cent of profits.

Net income was 1.19bn pesos in 1996, compared with 1.10bn pesos in 1995. Operating cash flow also increased 16 per cent in 1996 to 2.08bn pesos. In January, La Moderna completed the sale of its Asgrow Agronomic subsidiary, which produces grain seeds, to Monsanto of the US for $240m. The company said the proceeds of the sale would go to reduce its 9.31bn peso corporate debt. The company ended 1996 with a debt-equity ratio of 140 per cent.

Leslie Crawford, Mexico City

UAL forecast lifts sector

The US airline sector received a lift yesterday when UAL, parent of United Airlines, the biggest US carrier, said first quarter earnings would beat Wall Street analysts' highest estimate of $1.30 per fully distributed share. In early trading, shares in UAL were up $3⅞ at $63⅞, shares in AMR, parent of American Airlines, were up $⅝ at $81⅝, and shares in Delta Air Lines were up $1⅝ at $83⅝.

Several US airlines have been bolstered in the early part of this year by the threat of a strike at American Airlines, which has prompted passengers to book with rival carriers. But United Airlines said a more important factor was that more people were flying at higher fares – explaining the fact that AMR's shares rose too.

Last week, American Express's travel division reported that the average domestic air fare paid by US business travellers rose by 14 per cent in January, a rise that is believed to have continued into last month.

Richard Tomkins, New York

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AT&T investors left hanging on

Anyone looking to Mr John Walter this week to offer a new vision of AT&T's place in the world's fast-changing telecommunications industry would have been sorely disappointed.

Though it has long had a presence on the global telecoms stage, the biggest US carrier no longer instils the fear in international rivals it once did. At home, it is reeling from a surprisingly effective assault by smaller, more agile competitors. Internationally, its standing has been overshadowed by bold moves such as British Telecommunications' planned acquisition of MCI and the 20 per cent investment in Sprint by Deutsche Telecom and France Telecom.

A former printing company executive who was brought in last November to revive Ma Bell's fortunes, Mr Walter has just had his first chance to tell Wall Street what he plans to do about this state of affairs. About 200 analysts, investors and others have gathered at the company's New Jersey headquarters over the past two days to hear the deeply tanned and forceful AT&T president lay out his plan for the next five years. Mr Walter is due next year to succeed Mr Robert Allen as chief executive and, most likely, chairman.

On the company's domestic troubles, he offered a disarmingly simple-sounding solution: implement the business plan better. On AT&T's global ambitions, though, he was almost entirely silent. Beside offering the thought that this was "something we are working on", he had no bold visions to offer.

It was all highly reminiscent of the arrival of Mr Louis Gerstner at International Business Machines four years ago. Like Mr Gerstner, the heir apparent at AT&T has landed at a company whose bureaucratic, buttoned-down culture has left it unable to cope with the decay of its quasi-monopoly – in this case, the market for long-distance telephony in the US.

Mr Walter this week closely echoed Mr Gerstner's contention that what was needed was a new, sleeves-rolled-up style of management, rather than what the IBM chairman once called "the vision thing". Mr Walter promised "decisiveness at leadership level", a cost cutting drive and new accountability that would put more pressure on top executives to meet targets.

Before things at AT&T get better, though, they are likely to get a lot worse. The true depth of the hole in which the company finds itself may not become clear for two years or more. That concern has contributed to a renewed slump in its shares this week – and will leave a big question mark hanging over Mr Walter's effectiveness for some time to come.

For a start, the company is still struggling to shore up its slipping share of the residential long-distance market, which currently stands at little more than 50 per cent – the problem that has bedevilled its earnings for the past year. AT&T's business plan does not call for it to halt the slide until at least the final quarter of this year.

By then, the company may have seen the first signs of a new wave of competition. The local telephone companies, or Baby Bells, hope to take their first steps into the long-distance market this year as deregulation begins to take effect.

To prepare for this fight – and to launch its own attack on the $100bn local calling business, from which it has been excluded until now – AT&T is planning to spend $8bn-$9bn this year upgrading its telecoms network and offering new services.

The result, Mr Walter said, would be earnings of $2.45-$3.00 a share this year, below last year's $3.47 and the $3.50 that analysts had been expecting. He offered no guidance on 1998: but, with the same forces at work, some analysts expect the company to do little better than this year.

Wall Street knew that preparing the company for the new competitive era would be tough, but not this tough. "AT&T is playing catch-up," said Mr Jack Grubman, an industry analyst at Salomon Brothers. Having lost billions of dollars on its purchase of NCR, the computer company, then spent all last year shedding both that business and Lucent, it had lost valuable time and momentum, he added.

While the magnitude of the task facing AT&T's next boss has come increasingly into focus, his recipe for ultimate success is less apparent. That added an air of unreality to his prediction that the company would roughly double earnings to $5-$6 a share by 2001.

AT&T still has one of the best brands in the business – though, as Mr Walter conceded, it has become a little tarnished of late. It also has a 90m-strong customer base – a potential market for cross-selling added services as deregulation gradually opens up US communications markets. If he can turn this potential into hard earnings on the scale he has promised, Mr Walter will have earned a place with Mr Gerstner in the pantheon of US business leaders.

Richard Waters

John Walter: provided echoes of the arrival of Lou Gerstner at IBM

INTERNATIONAL NEWS DIGEST

Kepco hit by rise in import costs

Korea Electric Power (Kepco), South Korea's state-run electricity monopoly, posted a 34 per cent drop in preliminary 1996 net profits to Won596bn ($690m) because of rising costs for raw material imports, while sales climbed 16 per cent to Won11,600bn.

Although the results were below expectations, Kepco shares rose Won400 to close at Won25,600, on expectations that the government will soon increase electricity rates. Kepco is the largest capitalised company on the Seoul bourse.

The group's earnings were hurt by increased global prices for oil, liquid natural gas and coal. Foreign exchange losses on Kepco's dollar-denominated debt, the largest of any Korean company, also depressed earnings. Kepco, like many Korean companies this year, avoided an even sharper drop in net profits by capitalising its foreign exchange losses. If these losses had not been capitalised, Kepco would have posted profits below Won300bn, against Won910bn in 1995, according to Mr Bill Hunsaker, an analyst with ING Barings Securities.

Despite the predicted increase in electricity rates, earnings growth for Kepco in 1997 is expected to be only about 10 per cent, because costs will remain high.

John Burton, Seoul

Indonesian bank advances

Bank Negara Indonesia, the state-controlled bank which was listed on the Jakarta stock market last year, said net profit in 1996 grew approximately 22 per cent as loan growth exceeded growth in deposits.

BNI's net profit last year was Rp335bn ($140m) compared with the Rp327bn forecast at the time of its roadshow last year. The latest figures are unaudited and the bank did not detail its earnings. Loans grew 20 per cent to Rp23,400bn, while deposits grew 12.6 per cent to Rp19,100bn. Total assets rose 8.5 per cent to Rp34,800bn. Non-performing loans as a percentage of total loans fell from 7.2 per cent the previous year to 6.1 per cent. Despite slow growth in deposits, proceeds from BNI's Rp925bn initial public offering are expected to boost the bank's funding capabilities. BNI listed 25 per cent of its enlarged share capital in November last year.

Manuela Saragosa, Jakarta

Wines arm lifts Southcorp

Strong sales from its wine division and cost cuts in its appliances unit allowed Southcorp, the Australian manufacturing group, to post a 24 per cent improvement in profits after tax, to A$64.9m (US$50.37m), in the six months to end-December.

The result was helped by an A$2m abnormal surplus, compared with a A$1.5m charge a year earlier. Excluding these items, profits improved 16.6 per cent to A$62.8m. Group sales were flat, at A$1.32bn, while earnings per share, before abnormals, increased 13.7 per cent to 10.8 cents.

The company, which is Australia's largest wine producer, said its wine division saw a 14.6 per cent rise in sales, with operating profits climbing 14.3 per cent to A$54.5m. The appliances arm – which takes in the Rheem, Hoover and Chef brandnames – reported even stronger profits growth, up 29.1 per cent to A$18.8m, but sales fell 5.6 per cent to A$459m, reflecting the depressed domestic housing market and competition from imports.

In the packaging division, profits were steady at A$64.2m, although sales dipped slightly, from A$573.3m to A$558.3m, in a flat domestic market. *Nikki Tait, Sydney*

Napocor plans spin-offs

National Power Corporation (Napocor), the Philippines' largest state-owned company, said it would spin off its transmission and small-island grids operations into two subsidiaries as part of its plans for privatisation later this year.

In a move expected to advance the privatisation, Mr Guido Delgado, president of Napocor, said he had instructed management to complete all necessary preparations by June 1. This will require the separation of assets, liabilities, budgets and performance targets of the proposed subsidiaries. *Justin Marozzi, Manila*

INTERNATIONAL CAPITAL MARKETS

Benchmark deals dominate trading

INTERNATIONAL BONDS

By Conner Middelmann and Samer Iskandar

Three large benchmark transactions dominated the eurobond market yesterday: Y100bn of 20-year bonds for Italy, the country's first international funding operation of the year, Inter-American Development Bank's $1bn 10-year global issue and a $1bn five-year deal for Cades, the state entity set up to manage France's social security debt.

Italy obtained its tightest-ever pricing in yen, reflecting its strong spread performance over recent months. The new bonds were priced to yield 16.4 basis points over Japanese government bonds. Italy's last euroyen issue, Y100bn of 20-year bonds issued in October 1996, was launched at a spread of 22.5 basis points.

Book-runner Nikko Europe said the issue was oversubscribed after extensive pre-marketing and fully placed on launch day. It was sold mostly to Japanese institutions such as public-sector pension funds and regional financial institutions.

The first bond from Cades to be denominated in dollars met a lukewarm reception. Lead managers Deutsche Morgan Grenfell and Goldman Sachs admitted that bonds had been returned by other syndicate members, but said they were confident the whole amount would be easily placed in time.

"On an issue of $1bn, you are bound to see some bonds flowing back," DMG said.

Goldman expressed surprise at the change in market sentiment. "We got a terrific response when we announced the deal on Monday, but the market went all quiet [on Tuesday] when it was launched," it added.

Demand was much stronger from Asia than Europe. Two-thirds of the issue is expected to end up in Asia. "Syndicate members were more or less successful in placing allotments, depending on their Asian sales capacity," one banker said.

The leads also pointed to the favourable factors underpinning the deal, such the dollar's strength on the foreign exchange markets, which DMG said made it "an attractive alternative to investing in European currencies". Goldman also said that although the bonds looked expensive at a spread of 5 basis points over Treasuries, they were attractive compared with similar triple-A paper, such as bonds by the UK and the World Bank, which are yielding less than Treasuries.

The IDB's $1bn 10-year global bond tapped healthy demand for long-dated dollar paper, which has caused yield spreads on outstanding 10-year issues to narrow by around 10 basis points in recent weeks.

The bonds were priced at 17 basis points over Treasuries, 12 basis points tighter than on the IDB's first global bond a year ago. However, joint book-runners CSFB and Morgan Stanley reported broad distribution; with some 38 per cent going to European accounts, and about 35 per cent to Asia.

Mr Saul Hanono, the IDB's head of funding, said the agency planned to raise some $5bn in the international bond market this year, mostly in US dollars, the currency in which most of its loans are disbursed.

However, he said the bank was also keen to execute small, opportunistic deals offering favourable funding rates. Indeed, it has already raised the equivalent of about $800m this year through the issuance of bonds denominated in Czech koruna, South African rand, Australian and Canadian dollar bonds and dual-currency bonds aimed at Japanese investors.

J Sainsbury launched £300m of five-year bonds at 40 basis points over gilts. This compares favourably with Monday's £150m issue for BOC Group, yielding 37.5 basis points over gilts at a weaker credit rating. In addition to good UK demand, lead SBC Warburg reported buying by Swiss and German institutions.

New international bond issues

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
US DOLLARS							
HCLT, 1997-1, Class A1(a)‡	729.6	(a1)	(a1)R	Jul 2003	0.18R	-	Lehman Brothers
Inter-American Dev Bank	1bn	6.825#	96.302R	Mar 2007	0.325R	+17(6¼%Feb07)	CSFB/Morgan Stanley
Cades	1bn	6.50	99.913R	Mar 2002	0.25R	+5(6⅝%Feb02)	Deutsche/Goldman Sachs
Toyota Motor Credit Corp	250	6.25	99.891R	Mar 2000	0.1875R	-2(5⅝%Feb00)	Merrill/SBC Warburg
GMAC	200	6.50	99.953R	Apr 2000	0.225R	+20(5⅝Feb00)	SBC Warburg
Fuji Finance Cayman(b)‡	100	(b1)	100.00	undated	0.75	-	Fuji/Goldman Sachs
YEN							
Republic of Italy*	100bn	3.45	99.60R	Mar 2017	0.50R	-	Nikko Europe
STERLING							
J Sainsbury(s)	200	7.25	99.308R	Jun 2002	0.30R	+40(7%-02)	SBC Warburg
SWISS FRANCS							
Würth Finance Intl	100	3.75	101.75	Apr 2005	2.625	-	CSFB/UBS
ITALIAN LIRE							
WestLB Fin Curaçao(c,s)	150bn	7.625	101.415	Oct 2002	1.875	-	Cariplo, London Branch
PESETAS							
European Investment Bank	10bn	6.50	100.03	Mar 2007	1.875	-	BSN/UBS
Norddeutsche Landesbank	10bn	6.00	101.09	Apr 2002	1.625	-	Argentaria

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. *Unlisted. ‡ Floating-rate note. #Semi-annual coupon. R: Fixed re-offer price; fees shown at re-offer level. a) Household Consumer Loan Trust. Legal maturity: 15/3/07. Average life: 2.4 yrs. a1) Priced later: 1-mth Libor +12–13bp area, max 12½%. a2) Class A2: $48m, 4.9 yrs, 1-mth Libor +25bp area; max 14%. a3) Class A3: $62.4m, 4.9 yrs, 1-mth Libor +35bp area. a4) Class B of $45.6m and certificates of $33.6m were privately placed. b) $350m Tranche A launched 12/2/97 was increased to $450m. Callable from Mar 02 at par. b1) 6-mth Libor +90bp to Mar 02, then +240bp. c) Callable on 1/10/98 at par. s) Short 1st coupon

CAPITAL MARKETS NEWS DIGEST

HK group issues kangaroo bond

Australia's expanding "kangaroo" bond market took another step forward yesterday, when Hong Kong-based GE Capital Finance launched a A$50m floating-rate issue. It is the first kangaroo bond – an issue by a foreign entity in the local bond markets – from a Hong Kong entity.

The three-year issue, managed by Commonwealth Bank, was offered at 18 basis points over the 90-day bank bill mid-rate. The notes mature in March 2000 and the coupon is set at 10 basis points over 90-day bank bills.

The market for kangaroo bonds kicked off last year when Korea Development Bank launched a A$250m issue, and since then two of the four subsequent issuers have been Korean. Australian banks are enthusiastic about the market's possible development, pointing out that the sharp expansion of domestic pension fund money, coupled with a shrinking supply of locally generated government debt securities, means there is good investor demand.

Yesterday, Mr Wayne Hoy, chief manager of financial markets at Commonwealth Bank, said sales of the GE Capital notes to domestic institutions had been "excellent" and suggested investors were becoming increasing sophisticated in their portfolio management. Similar considerations – the rapid growth in domestic pension funds coupled with a declining supply of government paper as budgetary restraint takes hold – has also driven a revival in the Australian corporate bond market in recent months.

Nikki Tait, Sydney

Liffe second only to CBOT

For the second consecutive month, the London International Financial Futures and Options Exchange attained the second-highest derivatives trading volume worldwide in February, surpassed only by the Chicago Board of Trade. Liffe traded 17.5m futures and options contracts, with record turnovers in Italian lira-based products. For the year to date, Liffe's volume stands at 34.8m contracts, up 6 per cent on 1996.

Volume at Chicago's futures exchanges continued to slide during February, with turnover in benchmark interest rate contracts at both the Chicago Board of Trade and the Chicago Mercantile Exchange failing to recover from a weak 1996. If the trend continues, analysts said the Chicago futures markets could be facing their worst year in terms of business erosion.

CBOT's US Treasury bond futures contract volume fell 14.3 per cent in February, year-on-year. T-bonds comprise 40 per cent of its business. CME Eurodollar futures volume dropped 26.5 per cent. For the month, CBOT overall turnover was flat at 18.8m contracts, while the CME's was 15.7m, down 13.7 per cent.

In Europe, 8.6m contracts changed hands on DTB, the German derivatives exchange, in February, an 8 per cent gain led by growth in DAX and Bobl options. With a total of 4.9m contracts traded in February, Paris's Matif, saw activity decline by 20.5 per cent against January.

Connor Middelmann, London and Laurie Morse, Chicago

High-yielders continue tentative recovery

GOVERNMENT BONDS

By Richard Adams in London and John Authers in New York

High-yielding bond markets in Italy and Spain continued their tentative recovery, despite being held back by further "comment warfare" over European monetary union in late trading.

Italian BTPs and Spanish bonos rose strongly on the cash and futures markets, as positive economic news for both countries and a stronger US dollar helped give a bullish tone.

Spanish prices were helped by a good auction result earlier in the day, which helped squeeze prices higher, and news of further falls in domestic inflation.

In the cash market, 10-year benchmark bonos rose to 102.78, up 0.52 from the close of the previous day's trading. The 10-year yield fell to 6.88 per cent, down eight ticks. On the Barcelona futures exchange, the contract settled at 112.30.

But the contract had been trading above 112.50, compared with the previous day's 111.69, for most of the day, and was dragged down by comments from Mr Helmut Hesse, a member of the Bundesbank council, who said a delay to monetary union would require the Maastricht treaty to be renegotiated.

Mr Luca Jellineck, bonds strategist at Paribas in London, said: "We are unlikely to see an end of the 'comment warfare' by the Bundesbank, so some see it as a good chance to take a profit."

It was BTPs that made the strongest gains, after a week of underperformance. In London the Liffe BTP contract for March had its final day of trading, while the new front-month June contract settled at 127.51, up 0.81 from the previous day. Benchmark 10-year cash BTPs rose 0.42 to 102.99, with the yield falling to 7.31 per cent, down six basis points.

The yield spread between 10-year BTPs and German bunds fell to 192 basis points, against 204 points on Friday, when Italian paper was hardest hit. Benchmark bonos also gained ground on bunds, with the spread falling to 136 basis points, down five ticks from Monday.

German bunds traded quietly. Bund futures on Liffe were barely changed while rolling over to the June contract, which lost two ticks to settle at 102.53.

US Treasury prices edged higher in early trading but the yield on the benchmark 30-year bond remained firmly above 6.8 per cent.

Traders seemed confident the risk of a further monetary tightening from the Federal Reserve had been factored into prices, and are now awaiting Friday's unemployment report. The stronger US dollar also helped to bid prices upwards.

At midday, the 30-year bond had gained $\frac{1}{32}$ to $97\frac{19}{32}$, to yield 6.809 per cent. There were rising prices across the yield curve, with the two-year bond now yielding 6.061 per cent, while the 10-year bond gained $\frac{3}{32}$ to $97\frac{7}{8}$ to yield 6.539 per cent.

Data on new home sales for January, showing they had risen more than expected, knocked $\frac{1}{8}$ off the long bond price in mid-morning, but the market soon shook this off, and took some encouragement from comments by Mr Alan Greenspan, chairman of the Federal Reserve, that he had not intended to "jaw-bone" share prices lower.

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

		Coupon	Red Date	Price	Day's change	Yield	Week ago	Month ago
Australia		6.750	11/06	92.3346	–0.260	7.89	7.54	7.33
Austria		5.625	01/07	100.6600	+0.150	5.54	5.53	5.78
Belgium		6.250	03/07	104.8200	+0.460	5.61	5.66	5.68
Canada *		7.000	12/06	104.4000	+0.220	6.39	6.23	6.61
Denmark		8.000	03/06	112.0200	+0.380	6.22	6.21	6.38
France	BTAN	5.500	10/01	104.6155	+0.043	4.39	4.36	4.47
	OAT	6.500	10/06	108.3700	+0.070	5.37	5.35	5.56
Germany Bund		6.000	01/07	103.4700	+0.170	5.53	5.54	5.73
Ireland		8.000	08/06	110.4200	+0.080	6.49	6.37	6.55
Italy		7.750	11/06	102.9900	+0.420	7.31†	7.12	7.10
Japan	No 143	6.300	09/01	121.3643	+0.052	1.38	1.37	1.40
	No 182	3.000	09/05	104.2356	+0.037	2.41	2.40	2.43
Netherlands		5.750	01/07	102.3600	+0.230	5.31	5.31	5.60
Portugal		9.500	02/06	116.5000	–	6.70	6.70	6.63
Spain		7.350	03/07	102.7800	+0.520	6.88	6.73	6.67
Sweden		8.000	08/07	108.3461	+0.154	6.85	6.65	6.77
UK Gilts		8.000	12/00	103–29	+6/32	6.80	6.72	6.93
		7.500	12/06	102–04	+11/32	7.19	7.15	7.37
		9.000	10/08	113–09	+12/32	7.29	7.24	7.45
US Treasury *		6.250	02/07	97–27	+8/32	6.55	6.37	6.54
		6.625	02/27	97–17	+7/32	6.82	6.64	6.82
ECU (French Govt)		7.000	04/06	107.7400	+0.370	5.88	5.78	5.88

London closing, *New York mid-day. Yields: Local market standard.
† Gross (including withholding tax at 12.5 per cent payable by nonresidents)
Prices: US, UK in 32nds, others in decimal. Source: MMS International

US INTEREST RATES

Latest — Treasury Bills and Bond Yields

Prime rate	8¼	One month	-	Two year	6.09
Broker loan rate	7	Two month	-	Three year	6.21
Fed.funds	5¼	Three month	5.22	Five year	6.38
Fed.funds at intervention	[illegible]	Six month	5.38	10-year	6.55
		One year	5.59	30-year	6.82

BOND FUTURES AND OPTIONS

France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Mar	132.22	132.12	+0.14	132.28	132.06	86,944	120,455
Jun	130.94	130.86	+0.16	131.02	130.84	14,929	31,672
Sep	129.28	129.24	+0.18	129.38	129.28	168	1,782

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

Strike Price	CALLS Apr	CALLS May	CALLS Jun	PUTS Apr	PUTS May	PUTS Jun
128	2.92	-	3.21	0.05	0.19	0.35
129	2.00	-	2.42	0.12	0.33	0.56
130	1.17	1.47	1.73	0.29	0.60	0.86
131	0.34	0.87	1.16	0.66	0.99	1.27
132	0.20	0.45	0.72	1.31	1.56	1.84

Est. vol. total, Calls 14,201 Puts 9,954. Previous day's open int., Calls 95,091 Puts 118,834

Germany

■ NOTIONAL GERMAN BUND FUTURES (LIFFE)* DM250,000 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	103.47	103.26	-0.10	103.61	103.25	184475	142307
Jun	102.64	102.46	-0.09	102.79	102.45	177998	190776

■ BUND FUTURES OPTIONS (LIFFE) DM250,000 points of 100%

Strike Price	CALLS Apr	CALLS May	CALLS Jun	CALLS Sep	PUTS Apr	PUTS May	PUTS Jun	PUTS Sep
10200	0.79	1.13	1.35	1.37	0.33	0.67	0.89	1.76
10250	0.49	0.84	1.06	1.15	0.53	0.88	1.10	2.04
10300	0.27	0.60	0.81	0.95	0.81	1.14	1.35	2.34

Est. vol. total, Calls 7165 Puts 16255. Previous day's open int., Calls 160132 Puts 158866

Italy

■ NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)* Lira 200m 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	128.25	127.78	-0.22	128.40	127.50	18453	36429
Jun	128.00	127.40	-0.40	128.34	127.28	72366	82590

■ ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE) Lira200m 100ths of 100%

Strike Price	CALLS Jun	CALLS Sep	PUTS Jun	PUTS Sep
12700	2.24	2.93	1.84	2.83
12750	1.93	2.68	2.03	3.06
12800	1.68	2.40	2.26	3.30

Est. vol. total, Calls 8669 Puts 8291. Previous day's open int., Calls 61497 Puts 80828

Spain

■ NOTIONAL SPANISH BOND FUTURES (MEFF)

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Mar	112.36	112.13	+0.16	112.74	112.15	103,376	58,343
Jun	112.67	112.35	+0.20	112.91	111.76	3,944	19,979

UK

■ NOTIONAL UK GILT FUTURES (LIFFE)* £50,000 32nds of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	112-22	112-20	+0-04	112-29	112-19	13396	83182
Jun	112-07	112-03	+0-03	112-14	112-01	39082	175880

■ LONG GILT FUTURES OPTIONS (LIFFE) £50,000 64ths of 100%

Strike Price	CALLS Apr	CALLS May	CALLS Jun	CALLS Sep	PUTS Apr	PUTS May	PUTS Jun	PUTS Sep
112	0-48	1-26	1-47	2-18	0-42	1-20	1-41	2-42
113	0-22	0-60	1-17	1-54	1-16	1-54	2-11	3-14
114	0-08	0-37	0-58	1-30	2-02	2-31	2-52	3-54

Est. vol. total, Calls 1284 Puts 1125. Previous day's open int., Calls 64813 Puts 24944

Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Mar	97.26	97.46	+0.38	97.56	97.26	2,350	6,527
Jun	96.02	96.06	+0.38	96.10	96.02	362	305

US

■ US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Mar	110–18	110–26	+0–05	110–26	110–17	36,636	226,075
Jun	110–02	110–11	+0–06	110–13	110–01	316,585	311,327
Sep	109–31	109–31	+0–07	109–31	109–29	901	11,140

Japan

■ NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

	Open	Close	Change	High	Low	Est. vol	Open int.
Mar	126.42			126.45	126.37	2967	n/a
Jun	124.81			124.89	124.80	3566	n/a

* LIFFE futures also traded on APT. All Open Interest figs. are for previous day.

FTSE Actuaries Govt. Securities — UK Indices

Price Indices UK Gilts	Tue Mar 4	Day's change %	Mon Mar 3	Accrued interest	xd adj. ytd		Low coupon yield Mar 4	Low Mar 3	Low Yr. ago	Medium coupon yield Mar 4	Medium Mar 3	Medium Yr. ago	High coupon yield Mar 4	High Mar 3	High Yr. ago
1 Up to 5 years (19)	121.04	0.12	120.90	2.23	2.45	5 yrs	6.91	6.94	7.13	6.97	7.01	7.17	7.01	7.05	7.26
2 5-15 years (21)	152.28	0.22	151.94	2.80	1.93	15 yrs	7.38	7.41	8.03	7.38	7.39	8.05	7.31	7.35	8.16
3 Over 15 years (6)	174.07	0.03	174.02	4.21	2.31	20 yrs	7.47	7.48	8.13	7.43	7.43	8.13	7.32	7.36	8.24
4 Irredeemables (5)	201.59	0.04	201.50	3.73	1.00	Irred.†	7.56	7.55	8.17						
5 All stocks (51)	146.23	0.15	146.02	2.78	2.25										

Index-linked							Inflation 5% Mar 4	Mar 3	Yr. ago	Inflation 10% Mar 4	Mar 3	Yr. ago
6 Up to 5 years (2)	206.19	–0.01	206.20	2.53	0.00	Up to 5 yrs	3.09	3.08	2.79	2.39	2.38	1.52
7 Over 5 years (10)	198.42	–0.05	198.51	1.01	1.61	Over 5 yrs	3.44	3.44	3.72	3.24	3.23	3.52
8 All stocks (12)	198.16	–0.04	198.25	1.16	1.61							

Average gross redemption yields are shown above. Coupon Bands: Low: 0%-7¾%; Medium: 8%-10¾%; High: 11% and over. † Flat yield. ytd Year to date.

FT Fixed Interest Indices

	Mar 4	Mar 3	Feb 28	Feb 27	Feb 26	Yr ago	High*	Low*
Govt. Secs. (UK)	96.01	95.84	96.12	96.34	96.04	93.86	96.74	91.59
Fixed Interest	119.77	119.64	119.87	119.87	119.78	112.15	120.18	110.74

Gilt Edged Activity Indices

	Mar 3	Feb 28	Feb 27	Feb 26	Feb 25
Gilt Edged bargains	NA	102.3	77.4	115.1	100.0
5-day average	NA	98.1	96.0	98.1	93.0

 * for 1996/97. Government Securities high since compilation: 127.40 (09/01/35), low 49.18 (03/01/75). Fixed Interest high since compilation: 133.87 (21/01/94), low 50.53 (03/01/75). Basis 100: Government Securities 15/10/26 and Fixed Interest 1928. SE activity indices rebased 1974.

UK GILTS PRICES

[illegible]

FT/ISMA INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market. Closing prices on March 3 (March 4 where available)

[illegible]

Irish Republic would gain 'from joining Emu and from a UK opt-out'

Acquisitions help lift CRH to I£193m

By Andrew Taylor, Construction Correspondent

Inward investment in the Irish Republic could increase further if the country opted to join European monetary union and the UK stayed out, according to the country's biggest industrial group.

The CRH building materials group, which yesterday announced a 21 per cent rise in pre-tax profits to I£193.4m ($305.5m) for 1996 has large investments in continental Europe, the UK and the US as well as in Ireland.

Mr Don Godson, chief executive, said: "The consensus view of Irish industry is that it would be preferable for Britain to take part in the Emu, but that Ireland should join anyway."

However, he added: "A decision by Britain to stay out of the first phase of monetary union might be expected to lead to a further increase in inward investment in Ireland from companies, some of which will not want to operate outside the common currency."

Ireland would, on current forecasts, satisfy the Maastricht criteria for monetary union. Inward investment in the country has risen sharply in recent years with the Republic's economic growth rates among the highest for the OECD countries. GDP is forecast to rise by between 5 and 6 per cent this year.

Construction output in the Republic rose by 11 per cent last year as demand for property increased. Construction output is forecast to rise by at least a further 5 per cent this year. Property demand has been strongest in Dublin, fuelled by the rise in foreign companies establishing operations in the city.

CRH's 1996 results are likely to be among the best from the building materials sector and the company expects profits to increase further in all of its main markets this year.

Acquisitions, mainly in the US and Benelux countries, accounted for 58 per cent of pre-tax profits growth last year, before currency losses of I£8m.

Ireland, accounting for 28 per cent of group trading profits last year, increased its contribution 19 per cent to I£57m (I£48m).

North America, accounting for 44 per cent of group profits, raised pre-tax profits 56 per cent to I£91.3m. The result was helped by strong organic growth as well as first time contributions from acquisitions.

Mr Don Godson, chief executive, said: "We would be disappointed if growth in US trading profits did not achieve double figures this year, given that the new acquisitions will have been in for a full 12 months."

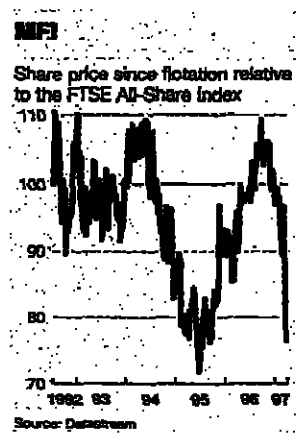
The outlook for the UK was improving after profits dipped 12 per cent last year to I£15.1m. Britain's housing output was forecast to rise at least 4 per cent in 1997.

The main area of concern was continental Europe, where demands to satisfy the Maastricht criteria for monetary union were putting pressure on local currencies and restricting public sector spending on infrastructure.

LEX COMMENT

MFI

MFI blew the whistle on Britain's housing recovery yesterday. If the furniture retailer is to be believed, the market is still as flat as one of its flat-pack kitchens. That may sound strange to people in London and the south-east, where City dealers are cruising estate agencies with wads of cash in their back pockets. But the recovery has yet to spread both outwards and downwards, while even in the south-east, prices have been driven by a lack of supply as much as increasing demand. For MFI, which depends on selling high volumes of relatively cheap bedrooms and kitchens, this is a deadly combination – explaining the sharp fall in its like-for-like sales growth and the 21 per cent drop in its share price.



The company has not made life easier for itself with the decision to spend £70m a year expanding in manufacturing and converting stores. That is restricting growth in gross margins despite a sharp fall in raw material prices.

But if the problem rests primarily with the housing market rather than MFI's strategy, its warning is also bad news for the likes of Carpetright and sofa retailer DFS Furniture, as well as Kingfisher and Boots with their DIY divisions.

At some point, it seems likely that falling unemployment, low interest rates and building society windfalls will lead to a broader-based housing recovery. But in the short run, consumers could become even more cautious as the election draws closer.

Life business behind GA rise

By Christopher Adams, Insurance Correspondent

General Accident, the composite insurer, yesterday rewarded investors with a 10.5 per cent increase in its total dividend, as a strong performance in UK life assurance cushioned the effects of intense competition in general insurance.

Operating profits slipped from £436m to £421m ($686m) as competition and a £30m jump in winter weather losses eroded underwriting margins on the non-life side. A change from year-end to average exchange rates added £10m to operating profits.

But earnings from life and pensions rose 37 per cent to £108m, following the purchase of Provident Mutual last year, which contributed £18m after integration costs.

GA said that it aimed to cover its annual dividend entirely with life profits.

A final dividend of 22.85p makes a total of 34.25p, the biggest increase for seven years and a "step change", according to analysts. The shares rose 10¼p to 847½p.

Mr Bob Scott, chief executive, said the group would pursue a strategy of "organic growth and growth by acquisition". But he played down the possibility of another life purchase in the immediate future, saying that GA had been "surprised" at the high price tags attached to life assurers over recent weeks.

The general insurance underwriting loss deteriorated from £130m to £212m. Last November's fire in the Channel tunnel cost GA £5m.

Bob Scott: played down possibility of life purchase

The company continued to pursue its strategy of exiting from non-core businesses and building small commercial operations in continental Europe.

Pre-tax profits rose 29 per cent to £720m as investment gains jumped from £123m to £333m.

Halifax could have £5bn in surplus funds

By Christopher Brown-Humes

Halifax yesterday suggested it might return capital to its new shareholders in a drive to make better use of surplus funds after its £11bn ($17.9bn) flotation in June.

Mr Roger Boyes, finance director, said the new company would have an "inappropriate" capital structure because its funds would be above regulatory requirements. Analysts estimate the surplus at between £3bn and £5bn.

Mr Boyes said how the society dealt with the surplus was "urgent" but would not lead to "knee-jerk" decisions.

The group's spending options included acquisitions, bolstering organic growth, a share buy-back and a special dividend, he said. Analysts said the group could easily fund more than one of these. Potential areas for expansion include further building society forays and long-term savings.

The prospect of a special dividend could persuade some of the society's 8.5m members, who are anticipating an average free shares windfall of £1,300, to keep shares they might otherwise have sold. But Halifax said it could put no timetable on its plans. Observers believe the shares could be worth up to £1,500 if bank shares continue their outperformance.

Halifax yesterday reported profits of £1.43bn before tax and exceptional items for 1996 – up 6.6 per cent.

However, the pre-tax line was depressed by £502m of exceptional items, comprising £153m of costs linked to its conversion to a bank and £349m to the merger and integration of the Leeds Building Society. After £33m of charges in 1995, the bill for the Leeds merger was £382m.

The society, which writes off mortgage incentives such as discounts and cash-backs in the year they are incurred, said profits would have been £265m higher if it had amortised them over a longer period.

Halifax, which will be one of the top 20 UK companies when it converts, lifted total assets to £115bn, following its purchase of Clerical Medical, the life insurer.

Lex, Page 14

LCI attack on Capital's record

By Christopher Price

The financial and management record of Capital Corporation was criticised yesterday by London Clubs International, which launched a £178m ($290m) hostile bid for the rival casino operator two weeks ago.

In the offer document to Capital shareholders, it said while LCI had a "proven record of achievement", Capital "has failed to deliver shareholder value." LCI also claimed Capital had underperformed its own broker's forecasts over the past two years by 52 per cent.

LCI had increased earnings per share by 54 per cent since flotation in 1994, it claimed, while Capital's had declined 42 per cent.

Mr Alan Hearn, chief executive of Capital, said the criticisms would be answered fully in the forthcoming defence document, but said many of the figures used by LCI were "picked for their convenience".

Mr Alan Goodenough, LCI chief executive, said the changing nature of the gaming market meant an international presence was increasingly important. LCI has 12 casinos, five outside of the UK. Capital owns Crockfords and the Colony Club casinos in London.

Price pressure in US hits S&N

By Jenny Luesby

Smith & Nephew, the medical equipment group, yesterday revealed its estimates for currency losses for this year, prompting analysts to downgrade profits forecasts by as much as 10 per cent. The shares closed down 6¾p at 184p.

The group's 1996 results were at the bottom end of expectations, thanks to severe pricing pressures in the US, as well as adverse currency movements.

Pre-tax profits rose 1 per cent to £178.7m, ($291m) on sales up 4 per cent to £1.07bn. On an underlying basis – at constant exchange rates and on continuing businesses – sales rose by 6 per cent, the company said.

However, Mr John Robinson, chief executive, said currency movements, which had knocked profits by a "modest" £1m last year, could be expected to deliver £12m of losses this year, if the pound and the dollar retained their strength.

The main profit squeeze came in the US, where hospital buying groups used increased purchasing power to push down prices.

However, sales growth was strong in Asia, where it gained more than £15m in sales, and in Europe, where increased market share lifted sales 9 per cent. In the UK, growth slowed to 3 per cent (12 per cent), because of government efforts to curb healthcare costs, and higher parallel imports following new healthcare alliances, such as Gehe and AHA.

GKN to omit lawsuit provision

By Tim Burt

GKN, which is publishing its full-year figures tomorrow, has decided not to include any provisions to cover damages arising from a multi-million dollar lawsuit in the US, in spite of market expectations that it would announce a charge of £250m-£260m ($423.8m).

Although a jury in Charlotte, North Carolina, has awarded $347m in damages against the UK engineering group, GKN has ruled out making provisions because the judge in the case has not yet decided whether to uphold the award.

The move is likely to surprise analysts, most of whom had factored in charges that would have severely reduced the group's forecast pre-tax profits of £365m (£322.4m).

GKN is reluctant to make a provision beforehand because that might be seen as an admission of guilt and could be used as a benchmark for any pay-out awarded by the court.

The company is now expected to make an "appropriate provision" in its annual report as a post-balance sheet event.

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Dividends: Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Applied Distrib	Yr to Dec 31	57	(42.6)	0.28♠	(5.06)	0.3	(10.4)	-	-	3	1.5	4.5
Biocure	6 mths to Dec 31 ★	2.19	(2.1)	0.021L	(0.108L)	0.06L	(0.3L)	-	-	-	-	-
Cala	6 mths to Dec 31	44.12	(42.48)	2.71	(2.11)	4.21	(3.28)	1.3	Mar 28	1.2	-	3.4
Canadian Pizza	Yr to Dec 31	22.8	(14.2)	2.12	(1.41)	8.7	(5.9)	2.6	May 14	2.4	5	4.8
Chieftain	Yr to Dec 31	19	(8.66)	0.678	(0.536L)	7.22	(6.23L)	2	Apr 25	0.5	3	1
CRH ♣	Yr to Dec 31	2,428	(1,911)	193.4	(160.5♠)	40.59†	(35.55)	7.12	May 12	6.35	10.2	9.1
Darby	Yr to Dec 31 ☆	20.4	(15.6)	2.1♥	(0.955)	6.11	(5.33§§)	1.2	May 23	1.1	2.2	2
EFT	Yr to Dec 31	30.3	(21.5)	5.84	(5.1♥)	9.83†	(8.43)	1.875	May 7	1.5	2.6	2.1
Epwin	Yr to Dec 31	72.4	(68.2)	5.23	(5.06)	15.5	(15.5)	6.1	July 7	6	9	8.9
General Accident	Yr to Dec 31 ★	6,204□	(5,735□)	720	(559)	103.9	(82.8)	22.85	July 1	20.3	34.25	31
Green (Ernest)	6 mths to Dec 31	3.53	(3.22)	0.306♠	(0.578L)	2.8	(6.3L)	2	May 6	nil	-	1
Holliday Chemical	Yr to Dec 31	164.8	(158.5)	16.6♥	(12.1♠)	10.8	(7.2)	3.15#	Apr 2	3	5.25	5
Industrial Control	6 mths to Nov 30	44.8	(32.3)	3.02	(2.12)	3.9†	(3.5)	1.5	May 2	1.5	-	3.6
JIB	Yr to Dec 31	198.4	(211.9)	27.5	(49.6L♠)	13.5	(44.6L)	5#	Mar 5	5	8.5⚘⚘	7.5
Kerry ♣	Yr to Dec 31	1,233	(1,199)	51.2	(43.2♠)	26.9	(23.3)	2.56	May 26	2.23	3.83	3.33
Linx Printing	6 mths to Dec 31	10.6	(8.58)	1.26	(0.782)	5.4	(3.5)	1.3	Apr 21	0.9	-	2.8
Lyles (S)	6 mths to Dec 31	10.1	(8)	0.162	(0.495L)	2.24	(6.86L)	0.75	Apr 4	nil	-	nil
Macklow (A&J)	6 mths to Dec 31	10.9■	(10■)	5.85	(5.05)	4.23	(3.72)	3.3344	July 1	3.2374	-	6.6689
Pendragon	Yr to Dec 31	609.4	(508.9)	12.6	(11.3)	21.7	(19.7)	6.6	Apr 30	6	9.9	9
Raine	6 mths to Dec 31	189.9	(223.6)	1.07	(1.35L♠)	0.34	(0.79L)	nil	-	nil	-	nil
Serco	Yr to Dec 31	397	(323.3)	18.3	(15.2)	18.8	(15)	3.8	Apr 14	3.25	5.5	4.7
Smith & Nephew	Yr to Dec 31	1,069	(1,026)	178.7♠	(176.8♠)	10.92†	(10.29)	3.71	July 2	3.49	6	5.65
Southern News φ	6 mths to Dec 28	47.3	(42.8)	8.17♥	(5.83♥)	29.27	(17.15)	5	Apr 1	4.5	-	17.75
Thistle Hotels	Yr to Dec 29	290.3	(267.5)	27.7L♠	(34.8)	7.24L	(7.56)	2	May 23	-	2	-
TDG	Yr to Dec 31	521.5	(510.4)	35.2♥	(36.1♥)	17.04	(16.53)	5.5	-	6.5	9.5	9.5
Waste Recycling	Yr to Dec 31	15.4	(9.55)	4.12	(3.07)	8.1†	(6.7)	1.5	May 8	1.5	2	1.5
Wetherspoon (JD)	6 mths to Jan 31	65	(45.2)	8.11	(5.55)	20.6†	(14.8)	3.4	May 23	3.1	-	9
Wyevale Garden	Yr to Dec 31	54.7	(45)	8.03	(6.57)	14	(11.7)	2.42	Apr 18	2.1	6.12	5.32

Investment Trusts		NAV (p)		Attributable Earnings (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Fidelity Euro	Yr to Dec 31	246.58	(216.32)	0.662	(0.761)	1.26	(1.46)	0.6⚘	May 13	0.6	0.6⚘	0.6
Fulcrum	9 mths to Jan 31	-	(-)	-	(-)	-	(-)	2.65♦	Mar 31	2.65	-	10.25‡
Herald	Yr to Dec 31	158.89	(137.98)	1.04	(0.78)	0.81	(0.65)	0.81	Apr 14	0.65	0.81	0.65
Mercury Grosvenor	Yr to Dec 31	232.57	(189.06)	1.28	(1.48)	4.92	(7.34)	4.5	Apr 2	4.5‡	4.5	4.5‡
Pacific Horizon	6 mths to Jan 31	57.4	(51.07‡‡)	0.171	(0.115)	0.22	(0.28)	-	-	-	-	0.3
Scottish Eastern	Yr to Jan 31	127.65	(115.21)	16	(16.6)	2.52	(2.62)	1.34⚘⚘	May 15	1.19	1.94⚘⚘	1.74

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. ♣Irish currency. ♠After exceptional charge. ♥After exceptional credit. †On increased capital. ★Comparatives restated. ☆Comparatives for 10 months. §§Annualised. □Total premium income. ⚘⚘Includes Foreign Income Dividend element. #Second interim in lieu of final. ■Rental income. φAim stock. ⚘Foreign Income Dividend. ♦Third interim; makes 5.45p to date. ‡Includes special. ‡‡At July 31.

MFI shares tumble 20% as sales slow

By Christopher Price

MFI yesterday announced a sharp slowdown in sales growth prompting a 20 per cent fall in the group's shares and sending shivers through the rest of the home furnishings market.

Shares in DFS, the furniture group, and Carpetright, the carpet retailer, were also hit hard. Kingfisher and Boots, which own home improvement chains, and retailers Marks and Spencer and Argos suffered as well.

Despite patchy general retail sales figures recently, the severity of the MFI announcement shocked investors and analysts.

MFI said sales for the sixteen weeks since its November 9 half-year stage were 7.3 per cent ahead, almost half the growth seen in the first half of the financial year to the end of December.

Analysts cut pre-tax profit estimates for the year to April 30 from £85m to about £75m. Last year it made pre-tax profits of £58m.

MFI shares closed 40½p down at 156½p.

Reports of Peruvian flood lift copper

MARKETS REPORT

By Kenneth Gooding and Robert Corzine in London and Laurie Morse in Chicago

Copper prices rose in late London trading after Southern Peru Copper Corporation, the country's biggest mining company and one of the world's 10 largest copper producers, said operations had been disrupted by heavy rains and flooding.

SPCC said operations at its Toquepala and Cuajone mines and its smelter at Ilo had been curtailed since Monday afternoon after damage had been caused to isolated sections of its railway, roads and tailings system.

"The effect on production cannot be determined until the assessment of damage is completed," SPCC said. But it stressed there had been no significant damage to any of its important operating facilities and no employee had been injured.

Copper for delivery in three months on the London Metal Exchange rose to \$2,405 a tonne in late inter-office trading after the news compared with the kerb close of \$2,395, down \$13 a tonne from Monday's close.

Nickel prices on the LME were under pressure in the afternoon as doubts about a strike at the Russian Norilsk complex grew. "We continue to discount the possibility of a prolonged strike," said Mr Jim Lennon, analyst at Macquarie Equities, part of the Australian banking group.

Mr Lennon warned that nickel could fall another \$500 a tonne when a solution to Norilsk's dispute is found. It ended at \$8,100 a tonne compared with Monday's \$8,310.

Oil prices continued to firm as traders awaited the latest stocks data from the American Petroleum Institute. Brent Blend for April delivery, the global benchmark, was quoted at \$19.29 a barrel in late London trading, 37 cents up on Monday's close. In the recent winter months, supply data from the US has been one of the main influences on oil and refined product prices.

Soyabean futures for May delivery on the Chicago Board of Trade remained above \$8 a bushel as traders continued to anticipate a strike at a Brazilian soyabean export terminal.

World soyabean processors have been counting on supplies from Brazil's new harvest to meet growing demand for oils and meals.

The balance between supply and demand is so fragile "that the market can't afford any delays in Brazilian shipments", said Mr Jerry Gidel, analyst with Dean Witter Reynolds in Chicago. There was potential for May soyabean futures to rise to \$8.25 before South American supplies were available. "The South American harvest has just begun, and it could take up to a month to get things up and running," he said.

LME WAREHOUSE STOCKS (As at Thursday's close) tonnes

Aluminium	-7,725	to 882,450
Aluminium alloy	+180	to 73,400
Copper	-1,775	to 214,800
Lead	-225	to 108,025
Nickel	+18	to 45,618
Zinc	-1,400	to 489,250
Tin	-210	to 10,010

Bidders line up for ZCCM

By Mark Ashurst in Johannesburg

Zambia has received 27 bids from 15 international mining companies for Zambia Consolidated Copper Mines, the state-owned conglomerate that is being sold off.

The long-awaited privatisation is the linchpin of Zambia's programme of economic structural adjustment. ZCCM generates almost 90 per cent of Zambia's export earnings and is critical to the revival of its ailing copper industry.

Annual copper output in Zambia has fallen from a peak of 720,000 tonnes in 1969 to 327,000 tonnes last year, due largely to a shortage of capital to develop new reserves.

Mr Valentine Chitalu, chief executive of the Zambian Privatisation Agency, said the level of interest reflected "a high level of optimism [for] the future of Zambia's mining industry".

A total of 43 groups had prequalified to bid for controlling stakes in the assets, which are due to be unbundled from the cash-strapped copper producer by the end of the year. There are nine packages of assets on offer.

Mr Charles Mercey at N.M. Rothschild, the investment bank advising the agency, said the initial offers comprised "a good spread" of bids, in spite of ZCCM's total debt of about \$800m. There was "a reasonable chance of getting people to accept the kind of levels of debt that we expected".

The bidders include a consortium led by Anglovaal Minerals of South Africa – with Noranda Mining and Exploration of Canada, Phelps Dodge of the US, and the Commonwealth Development Corporation – which has submitted offers for three of the nine packages.

First Quantum Minerals of Canada, Sterlite of India, Reunion Mining of the UK and Straits Resources of Australia are among the other bidders. Eskom, the South African electricity supplier, Tractebel, the Belgian utility and a consortium of the UK's Midland Power International and National Grid have bid for ZCCM's power assets.

Successful offers are likely to be announced after a minimum of four weeks. Unsold assets will be re-tendered or transferred to a new holding company for disposal.

North Sea gas plans revived

By Robert Corzine

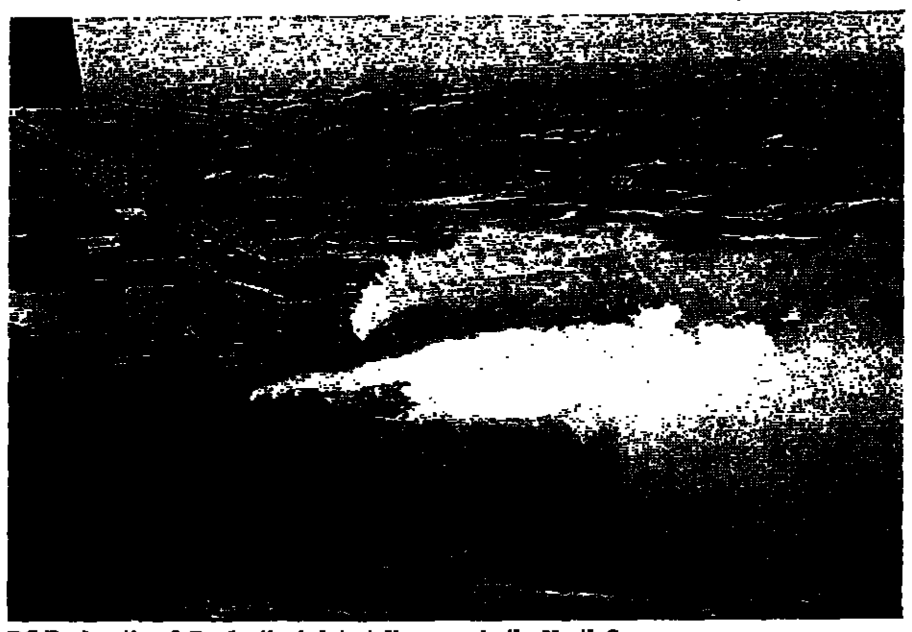
The reluctance of oil companies to put forward new gas development projects in the southern North Sea because of a natural gas surplus in the UK appears to be receding, according to a new study by consultants Arthur Andersen.

The report suggests more optimistic views on the gas price, combined with the introduction of a formal wholesale gas market in the UK, have helped to persuade producers to "bring forward the fields previously delayed or considered uneconomic".

The extensive infrastructure of pipelines and platforms in the area also enhances the chances of developing a number of marginal fields.

Arthur Andersen identifies a number of fields in the southern gas basin which it says are likely to be developed because of changing perceptions of gas prices and markets. These include Arco's Blythe field – discovered in 1966 – and various small, satellite fields around Conoco's Viking field.

Seven other small southern basin fields – containing a potential 500m cubic metres of gas – could also be developed by the end of the decade, according to the study.



BG Exploration & Production's latest discovery in the North Sea

Arthur Andersen also notes that "considerable pressure" on companies to explore the deeper carboniferous layer in the southern gas basin has not resulted in significant production relative to the more productive Jurassic and Permian layers. Reserves from the carboniferous layer of the southern basin represent only 4 per cent of the total for the area.

Meanwhile, BG Exploration and Production yesterday announced a new oil and gas discovery in the North Sea, 160km north-east of St Fergus.

The company, which had been seeking gas condensate – naturally occuring petrol – would not speculate about the potential size of the field. But it was tested at flow rates of more than 7,500 barrels a day of light oil. The associated natural gas flowed at a rate of 9m standard cubic feet a day.

BG E&P has entered into informal talks with Texaco, which operates the nearby Galley field, on possible co-operation in the development of the discovery. BG E&P has a 60 per cent stake in the field, with Agip, the Italian oil company, holding the remainder.

Mr Frank Chapman, managing director of BG E&P, said it was considering forming a fast-track development plan for the field.

COMMODITIES NEWS DIGEST

Pemex produces reserves data

Mexico's state oil monopoly has produced its clearest statement to date of reserves in its chief oil producing area. The figures from Petróleos Mexicanos (Pemex) are likely to be used to argue that radical changes are not necessary for the company to remain a leading oil producer.

According to the figures, which also show the company's assumptions about its own efficiency for the first time, Pemex's *in situ* hydrocarbon reserves in Campeche Sound, off the coast of south-east Mexico, were originally the equivalent of 74bn barrels of crude. To date, said the company, only 11.8bn barrels have been produced, less than one-sixth of the total. Proven reserves amount to 17.1bn barrels, worth almost \$140bn, according to Pemex's calculations.

"Basically, these figures are trying to say that there's no need for big change within the organisation," said Mr George Baker of Mexico Energy Intelligence, a research firm in Houston, Texas. "It is also the first time Pemex has made its methodology this clear. In the past, the reserve numbers often seemed to be politically inspired."

For the first time Pemex's figures, which were audited by Netherland, Sewell & Associates, include estimates for remaining reserves – the amount the company believes it can extract from each of the wells in the area. The estimates are arrived at by multiplying the amount of hydrocarbons originally *in situ* by the company's efficiency in extracting them, and subtracting what has been extracted to date.

The figures show that the most important reserve in the area is the Cantarell complex, the sixth biggest oil reserve in the world, in which Pemex intends to invest more than \$800m during the current year. Pemex officials say Cantarell will provide perhaps 150,000 barrels a day of the company's expected increase in crude production of 200,000 barrels a day for the current year.

Daniel Dombey, Mexico City

Serbia 'has to import wheat'

Serbia has imported up to 80,000 tonnes of wheat over the past three months as a result of last year's poor harvest and excessive sales from grain stocks, independent analysts said yesterday.

The wheat was bought from Argentina, France, Germany, Austria and Hungary. Serbia, which is traditionally a wheat exporter, will need to buy as much as 300,000 tonnes before the next harvest, the analysts said.

Yugoslavia, comprising Serbia and Little Montenegro, is expected to harvest between 2m and 2.5m tonnes of wheat this year, well up from the 1.5m tonnes of last year when farmers planted less because the state had failed to pay them. Farmers, still owed a total of 400m dinar (\$72m), are short of oil and fertilisers.

The socialist government does not publish figures on its grain stocks. Economists calculate the authorities sold 700,000 tonnes of wheat in the year to July 1996 to fund the country's trade deficit.

Production of sugar beet and oil seed is expected to fall sharply this year but Yugoslavia is believed to have sufficient sugar reserves to see it through until 1988.

Guy Dinmore, Belgrade

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE

(Prices from Amalgamated Metal Trading)

ALUMINIUM, 99.7 PURITY (\$ per tonne)

	Cash	3 mths
Close	1665-6	1691-2
Previous	1660-61	1687.5-88
High/low	1666.5	1700/1682
AM Official	1666-67	1692-93
Kerb close		1686-7
Open int.	265,745	
Total daily turnover	72,836	

ALUMINIUM ALLOY (\$ per tonne)

	Cash	3 mths
Close	1537-42	1557-60
Previous	1535-40	1557-58
High/low		1570/1555
AM Official	1535-40	1555-58
Kerb close		1550-55
Open int.	5,990	
Total daily turnover	1,146	

LEAD (\$ per tonne)

	Cash	3 mths
Close	717-8	703-4
Previous	725-6	705.5-6
High/low	723/721	705/695
AM Official	721-22	703.5-4.0
Kerb close		695-7
Open int.	39,941	
Total daily turnover	14,165	

NICKEL (\$ per tonne)

	Cash	3 mths
Close	8130-40	8225-35
Previous	8215-25	8310-20
High/low		8325/8100
AM Official	8125-30	8210-15
Kerb close		8100-10
Open int.	50,130	
Total daily turnover	15,341	

TIN (\$ per tonne)

	Cash	3 mths
Close	5800-10	5860-5
Previous	5785-805	5855-60
High/low		5890/5840
AM Official	5815-25	5875-80
Kerb close		5860-5
Open int.	16,191	
Total daily turnover	4,963	

ZINC, special high grade (\$ per tonne)

	Cash	3 mths
Close	1245-6	1253-4
Previous	1227-28	1240-41
High/low	1247/1246.5	1257/1240
AM Official	1246.5-47.0	1253.5-54.0
Kerb close		1250-1
Open int.	86,941	
Total daily turnover	34,206	

COPPER, grade A (\$ per tonne)

	Cash	3 mths
Close	2470-3	2402-3
Previous	2475.5-78.5	2410-11
High/low	2500/2455	2424/2385
AM Official	2479-81	2416-17
Kerb close		2392-3
Open int.	137,965	
Total daily turnover	54,094	

LME AM Official £/\$ rate: 1.6170
LME Closing £/\$ rate: 1.6170

Spot 1.6163 3 mths: 1.6136 6 mths: 1.6107 9 mths: 1.6083

HIGH GRADE COPPER (COMEX)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	115.70	+0.15	115.75	114.35	1,030	8,937
Apr	114.75	+0.25	114.70	113.50	265	3,164
May	113.00	+0.25	113.25	111.50	6,755	26,825
Jun	110.70	+0.40	110.50	110.50	44	992
Jul	109.05	+0.10	109.10	107.90	364	7,014
Aug	107.45	+0.10	-	-	10	633
Total					8,603	61,181

PRECIOUS METALS

LONDON BULLION MARKET

(Prices supplied by N M Rothschild)

Gold(Troy oz)	\$ price	£ equiv	SFr equiv
Close	359.75-360.25		
Opening	362.50-362.80		
Morning fix	361.75	223.648	536.765
Afternoon fix	359.40	222.167	532.739
Day's High	362.50-362.80		
Day's Low	358.50-358.80		
Previous close	362.50-363.00		

Loco Ldn Mean Gold Lending Rates (Vs US\$)

1 month	4.01	6 months	4.02
2 months	4.02	12 months	4.02
3 months	4.02		

Silver Fix	p/troy oz.	US cts equiv.
Spot	326.40	528.25
3 months	330.85	534.65
6 months	335.45	541.20
1 year	344.50	554.25

Gold Coins	\$ price	£ equiv.
Krugerrand	362-364	224-226
Maple Leaf	-	-
New Sovereign	85-88	52-54

Precious Metals continued

GOLD COMEX (100 Troy oz.; \$/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	360.1	-3.3	-	-	-	23
Apr	360.5	-3.3	364.5	360.1	34,083	76,396
Jun	362.6	-3.4	366.0	362.1	1,557	24,793
Aug	365.0	-3.4	367.0	364.9	389	10,647
Oct	367.5	-3.5	368.7	367.4	382	6,266
Dec	370.1	-3.5	374.2	369.5	862	20,937
Total					38,186	179,261

PLATINUM NYMEX (50 Troy oz.; \$/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Apr	389.3	-2.5	396.0	388.0	3,441	19,266
Jul	391.2	-2.4	392.0	389.5	159	2,955
Oct	393.2	-2.4	394.0	393.5	84	1,981
Jan	395.3	-2.4	-	-	20	1,128
Total					3,684	25,380

PALLADIUM NYMEX (100 Troy oz.; \$/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	149.50	-4.80	150.00	149.00	134	832
Jun	151.50	-4.80	154.00	151.00	1,134	9,299
Sep	152.50	-4.80	-	152.50	135	751
Dec	153.50	-4.80	155.50	153.00	5	190
Total					1,403	11,072

SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	521.9	-7.3	528.5	521.0	829	1,916
May	528.5	-7.5	535.0	525.0	19,354	60,843
Jul	531.5	-7.5	540.0	530.5	975	11,927
Sep	536.6	-7.5	540.0	537.0	151	3,392
Dec	544.0	-7.5	548.5	542.5	100	5,320
Jan	546.9	-7.5	-	548.0	-	14
Total					21,419	91,159

ENERGY

CRUDE OIL NYMEX (1,000 barrels, \$/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	20.37	+0.12	20.62	20.08	46,027	85,235
May	20.20	+0.17	20.38	19.95	21,848	53,238
Jun	20.03	+0.15	20.19	19.81	11,674	44,863
Jul	19.93	+0.17	20.00	19.73	6,291	24,174
Aug	19.70	+0.02	19.87	19.60	2,516	18,744
Sep	19.70	+0.07	19.82	19.64	1,278	13,402
Total					na	na

CRUDE OIL IPE (\$/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	19.14	+0.22	19.24	18.95	19,558	48,407
May	18.81	+0.19	18.92	18.61	11,269	56,190
Jun	18.65	+0.16	18.76	18.50	4,622	21,861
Jul	18.53	+0.12	18.61	18.45	1,088	12,911
Aug	18.43	+0.05	18.60	18.43	377	5,787
Sep	18.48	-	18.55	18.43	1,166	6,290
Total					na	na

HEATING OIL NYMEX (42,000 US galls; c/US galls)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	53.10	-0.08	54.00	52.50	11,719	39,449
May	52.90	+0.16	53.45	52.50	4,208	12,531
Jun	53.10	+0.21	53.45	52.70	2,817	11,178
Jul	53.60	+0.36	53.90	53.15	1,855	10,966
Aug	54.20	+0.36	54.50	53.75	1,140	5,911
Sep	54.80	+0.26	55.20	54.75	1,970	5,479
Total					na	na

GAS OIL IPE (\$/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	163.75	+3.50	164.25	161.50	7,792	20,725
Apr	164.75	+3.00	165.25	163.00	5,058	16,535
May	166.25	+3.00	166.50	164.75	1,530	4,771
Jun	167.00	+2.50	167.25	165.75	821	7,991
Jul	168.25	+2.00	168.50	167.75	386	3,160
Aug	169.75	+2.00	170.00	169.00	369	1,394
Total					18,703	65,357

NATURAL GAS NYMEX (10,000 mmBtu; \$/mmBtu.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	1.900	+0.087	1.910	1.791	11,614	33,712
May	1.950	+0.087	1.960	1.865	3,197	18,661
Jun	1.960	+0.062	1.960	1.890	1,568	11,134
Jul	1.945	+0.045	1.955	1.900	857	10,518
Aug	1.945	+0.035	1.950	1.905	1,254	8,740
Sep	1.945	+0.023	1.950	1.930	1,055	7,504
Total						na

UNLEADED GASOLINE
NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	62.10	+0.33	62.70	61.20	13,460	38,365
May	61.90	+0.26	62.40	61.10	5,977	18,461
Jun	61.25	+0.26	61.70	60.75	2,525	12,936
Jul	60.40	+0.50	60.50	60.00	505	5,718
Aug	59.15	+0.50	59.30	59.00	51	3,702
Sep	58.00	-	58.00	57.70	84	1,458
Total					na	na

GRAINS AND OIL SEEDS

WHEAT LIFFE (£ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	97.00	-0.30	97.00	96.65	15	200
May	99.80	-0.30	100.65	100.45	428	3,392
Jul	102.10	-0.40	102.60	101.95	162	846
Sep	93.15	-0.35	-	-	-	33
Nov	95.15	-0.35	95.50	95.00	85	1,908
Jan	97.15	-0.25	97.50	97.00	35	313
Total					740	6,795

WHEAT CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	371.00	-2.00	380.00	368.00	1,356	1,885
May	370.00	-7.00	384.00	367.50	6,894	25,543
Jul	361.75	-5.75	373.00	361.00	10,710	35,716
Sep	365.50	-4.50	374.50	365.00	581	3,172
Dec	374.00	-4.75	383.00	374.00	268	3,540
Mar	375.00	-2.00	380.00	380.00	26	66
Total					19,869	70,189

MAIZE CBT (5,000 bu min; cents/56lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	302.75	-	308.75	301.75	11,621	35,400
May	301.50	+0.25	308.00	300.00	43,330	157,960
Jul	300.25	-0.50	307.25	299.50	21,982	107,216
Sep	288.50	-1.50	293.00	287.50	1,702	13,831
Dec	286.75	-1.50	291.25	286.50	17,079	63,916
Mar	291.75	-1.25	295.50	291.00	636	5,361
Total					96,802	387,784

BARLEY LIFFE (£ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	91.00	-1.00	92.00	91.00	10	118
May	92.00	-1.50	93.50	93.50	-	130
Sep	91.50	-	-	-	-	28
Nov	93.50	-	93.50	93.25	15	356
Jan	95.50	-	-	-	-	27
Total					30	659

SOYABEANS CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	806.50	+1.50	809.00	799.00	6,383	12,055
May	810.00	+2.50	813.00	802.50	42,188	81,066
Jul	808.50	+2.00	812.00	802.00	12,226	52,281
Aug	798.50	+2.50	801.00	793.00	1,161	8,038
Sep	754.00	+1.75	758.50	752.50	823	3,429
Nov	714.75	+3.25	715.50	709.75	6,341	26,905
Total					69,391	186,466

SOYABEAN OIL CBT (60,000lbs; cents/lb)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	24.82	+0.35	24.85	24.45	8,399	6,399
May	25.23	+0.31	25.27	24.85	15,812	48,926
Jul	25.67	+0.34	26.70	25.30	3,563	22,304
Aug	25.77	+0.36	25.77	25.45	522	4,469
Sep	25.88	+0.38	25.86	25.54	420	2,907
Oct	25.95	+0.34	25.95	25.63	260	1,492
Total					27,641	94,132

SOYABEAN MEAL CBT (100 tons; \$/ton)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	262.3	-0.9	263.3	260.2	2,515	12,021
May	259.1	-0.5	259.8	256.3	14,781	48,117
Jul	255.5	-0.3	257.3	254.0	5,754	28,784
Aug	250.4	+0.1	251.2	249.5	997	6,929
Sep	240.4	+0.4	241.0	239.0	513	3,812
Oct	224.2	+1.0	224.3	223.0	277	2,812
Total					25,686	111,866

POTATOES LIFFE (£/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Apr	65.0	+0.8	66.0	64.4	87	986
May	70.0	+1.0	70.0	68.5	61	192
Jun	75.0	+0.5	-	-	-	-
Nov	65.0	+2.0	-	-	-	2
Mar	100.0	+2.0	-	-	-	-
Apr	110.0	+1.0	109.5	109.5	15	664
Total					150	1,844

FREIGHT (BIFFEX) LIFFE (\$10/index point)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	1415	-30	1440	1400	159	695
Apr	1490	-	1490	1480	94	1,233
Jul	1260	-197	1260	1255	10	640
Oct	1385	+130	1370	1370	-	213
Jan	1400	+10	-	-	-	49
Apr	1400	-5	-	-	-	-
Total					315	2,843

	Close	Prev
BFI	1417	1430

FUTURES DATA
All futures data supplied by CMS.

Minor Metals
European free market, from Metal Bulletin. \$ per lb in warehouse, unless otherwise stated (last week's in brackets, where changed). **Antimony:** 99.65%, \$ per tonne, 2,200-2,350 (2,250-2,425). **Bismuth:** min. 99.99%, tonne lots 2.90-3.15 (2.80-3.15). **Cadmium:** min. 99.95%, cents a pound, 60.00-70.00 (65.00-73.00). **Cobalt:** MB free market, min. 99.8%, 18.50-19.50 (18.90-20.30); min. 99.3%, 17.20-17.80 (17.35-17.80). **Mercury:** min. 99.99%, \$ per 76 lb flask, 161-171. **Molybdenum:** drummed molybdic oxide, 4.45-4.65 (4.50-4.70). **Selenium:** min 99.5%, 2.40-3.20 (2.40-3.30). **Tungsten ore:** standard min. 65%, \$ per tonne unit (10kg) WO_3, CIF, 45-55. **Vanadium:** min. 98%, CIF, 3.80-4.00. **Uranium:** Nuexco unrestricted exchange value, 12.80.

SOFTS

COCOA LIFFE (£/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	917	+28	910	903	329	2,869
May	930	+36	932	911	7,569	34,443
Jul	942	+21	943	928	635	14,145
Sep	957	+18	957	949	672	13,869
Dec	964	+16	967	955	1,218	20,293
Mar	981	+15	982	973	1,271	21,741
Total					12,109	128,729

COCOA CSCE (10 tonnes; \$/tonnes)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	1283	+23	1283	1271	20	169
May	1336	+21	1338	1316	8,483	34,738
Jul	1359	-	1361	1341	506	18,973
Sep	1385	+44	1385	1371	406	10,805
Dec	1415	+45	1415	1398	156	6,380
Mar	1446	+48	1441	1432	409	15,563
Total					9,995	93,091

COCOA (ICCO) (SDR's/tonne)

	Price	Prev. day
Mar 3		
Daily	1017.02	1007.58

COFFEE LIFFE (\$/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	1705	+63	1705	1650	557	3,472
May	1698	+46	1699	1655	4,428	23,941
Jul	1700	+48	1700	1660	1,623	9,873
Sep	1695	+55	1695	1640	644	4,452
Nov	1670	+45	1680	1630	108	1,965
Jan	1645	+35	1635	1622	35	439
Total					7,335	44,152

COFFEE 'C' CSCE (37,500lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	211.65	+13.20	213.00	199.00	819	2,583
May	195.25	+10.40	199.50	184.00	8,464	24,202
Jul	183.05	+9.35	185.00	174.00	2,344	7,834
Sep	172.25	+8.70	168.55	163.00	1,340	4,211
Dec	159.10	+8.15	158.95	150.00	271	2,939
Mar	149.10	+6.60	148.50	143.50	118	671
Total					13,159	42,603

COFFEE (ICO) (US cents/pound)

Mar 3		Prev. day
Comp. daily	136.83	131.40
15 day average	125.85	124.38

WHITE SUGAR LIFFE (\$/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	308.1	+0.7	308.0	306.0	748	13,424
Aug	307.1	+0.5	307.2	305.4	235	4,181
Oct	302.6	+0.4	302.8	301.5	101	2,887
Dec	301.7	+0.5	302.0	301.0	51	812
Mar	302.9	+0.1	303.2	302.0	71	531
May	300.4	-2.9	301.7	301.7	-	159
Total					1,097	21,994

SUGAR '11' CSCE (112,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
May	10.86	+0.04	10.90	10.77	23,894	73,027
Jul	10.71	+0.07	10.72	10.62	3,586	30,945
Oct	10.69	+0.08	10.70	10.61	1,428	23,893
Mar	10.69	+0.09	10.69	10.62	1,088	9,876
May	10.70	+0.09	10.69	10.63	156	1,843
Jul	10.69	+0.09	10.71	10.64	50	925
Total					30,202	140,628

COTTON NYCE (50,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	73.05	-0.93	74.10	73.05	101	286
May	74.78	-0.86	75.75	74.50	3,513	31,644
Jul	76.06	-0.74	76.80	75.75	726	12,027
Oct	77.05	-0.08	77.15	76.85	38	1,373
Dec	76.95	-0.35	77.25	76.65	804	14,658
Mar	77.73	-0.32	77.90	77.36	22	1,084
Total					5,169	61,854

ORANGE JUICE NYCE (15,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	84.75	+5.75	85.00	80.00	828	1,475
May	87.70	+5.90	87.75	82.50	2,189	15,082
Jul	89.70	+5.00	89.70	85.90	241	4,875
Sep	92.10	+5.00	92.10	88.10	118	3,443
Nov	94.15	+5.00	92.50	90.75	118	1,040
Jan	95.00	+3.85	95.00	92.00	64	433
Total					3,697	26,599

VOLUME DATA
Open Interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears. Volume & Open interest totals are for all traded months.

INDICES

Reuters (Base: 18/9/31 = 100)

Mar 4	Mar 3	month ago	year ago
1980.2	1968.8	1943.5	2129.2

CRB Futures (Base: 1967 = 100)

Mar 3	Feb 28	month ago	year ago
243.57	242.41		

GSCI Spot (Base: 1970 = 100)

Mar 3	Feb 28	month ago	year ago
186.83	186.82	203.82	195.50

MEAT AND LIVESTOCK

LIVE CATTLE CME (40,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Feb	68.100	-	68.250	67.600	19	27
Apr	69.425	+0.175	69.650	69.050	7,448	43,344
Jun	65.250	-0.15	65.425	65.125	2,478	21,153
Aug	64.075	-0.25	64.400	64.050	1,371	18,825
Oct	67.700	-0.075	67.925	67.650	566	13,143
Dec	69.700	-0.075	69.925	69.675	246	5,470
Total					12,374	105,199

LEAN HOGS CME (40,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Apr	73.175	-0.9	74.550	73.050	3,117	15,248
Jun	78.850	-0.75	79.800	78.675	1,591	10,449
Jul	77.325	-0.6	78.125	77.250	372	2,497
Aug	74.000	-0.55	74.750	73.850	229	2,188
Oct	66.950	-0.375	67.550	66.800	75	1,493
Dec	65.000	-0.3	66.700	65.250	30	783
Total					5,392	33,128

PORK BELLIES CME (40,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Mar	81.375	-0.725	81.650	81.075	531	1,188
May	82.550	-1.175	83.250	82.400	2,177	5,282
Jul	81.800	-1.225	82.350	81.550	301	1,125
Aug	79.025	-0.975	80.000	79.200	55	516
Total					3,064	8,111

LONDON TRADED OPTIONS

Strike price \$ tonne — Calls — — Puts —

	Calls		Puts	
ALUMINIUM (99.7%) LME	Apr	Jul	Apr	Jul
1650	54	86	24	48
1700	29	61	49	72
1750	13	41	83	101
COPPER (Grade A) LME	Apr	Jul	Apr	Jul
2300	183	122	9	88
2400	87	77	33	142
2500	37	46	82	209
COFFEE LIFFE	May	Jul	May	Jul
1650	135	196	87	146
1700	109	172	111	172
1750	88	152	140	202
COCOA LIFFE	May	Jul	May	Jul
875	61	79	6	12
900	43	61	13	19
925	28	46	23	29
BRENT CRUDE IPE	Apr	May	Apr	May
1950	-	-	63	-
2000	10	28	-	-
2050	1	-	-	-

LONDON SPOT MARKETS

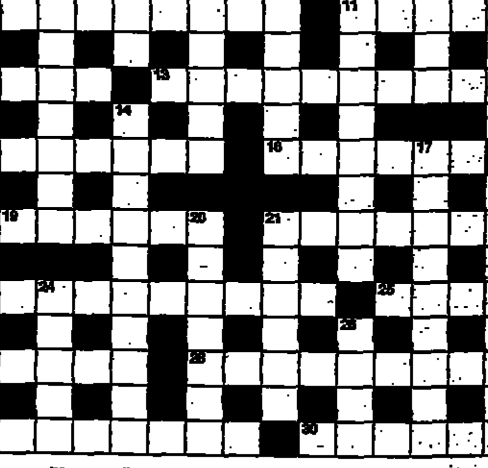
		+or-
CRUDE OIL FOB (per barrel)		
Dubai	\$17.43-7.53w	+0.38
Brent Blend (dated)	\$19.28-9.30	+0.26
Brent Blend (Apr)	\$19.28-9.30	+0.48
W.T.I.	\$20.48-0.52w	+0.305
OIL PRODUCTS NWE prompt delivery CIF (tonne)		
Premium Gasoline	\$210-212	+3
Gas Oil	\$163-165	+4
Heavy Fuel Oil	\$84-86	
Naphtha	\$187-189	
Jet fuel	\$189-191	+4
Diesel	\$175-177	+4
NATURAL GAS (Pence/therm)		
Bacton (Mar)	10.20	-0.10
Petroleum Argus. Tel. London (0171) 359 8792		
IPE (Apr)	10.30	-0.05
OTHER		
Gold (per troy oz)♣	\$360.00	-2.75
Silver (per troy oz)♣	525.00c	-8
Platinum (per troy oz.)	\$385.25	-2.25
Palladium (per troy oz.)	\$149.75	-0.25
Copper	120.0c	
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	14.27r	+0.09
Tin (New York)	271.50	+3.00
Cattle (live weight)	100.80p	-1.54*
Sheep (live weight)	144.91p	+0.98*
Pigs (live weight)†	93.73p	+0.86*
Lon. day sugar (raw)	\$268.40	-3.30
Lon. day sugar (wte)	\$309.50	-1.70
Barley (Eng. feed)	Unq	
Maize (US No3 Yellow)	£109.00	
Wheat (US Dark North)	Unq	
Rubber (Mar)♥	79.50p	
Rubber (Apr)♥	79.50p	
Rubber (KL RSS No1)	304.0x	+1.0
Coconut Oil (Phil)§	782.5y	-2.5
Palm Oil (Malay.)§	575.0x	-2.5
Copra (Phil)§	\$490.0y	
Soyabeans (US)	222.0x	+2.0
Cotton Outlook'A' index	80.80	
Wooltops (64s Super)	418p	

£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. x Mar w Apr y Feb/Mar ♥ London Physical. § CIF Rotterdam. ♣ Bullion market close. * Change on week. †Based on 4,285 head of pigs sold.

JOTTER PAD

CROSSWORD

No.9,316 Set by CINEPHILE



In ascending order: 1 across 23, 28, 15, 27 23-21 across, (26) 21 across, 10, 27-20, 23-20, (26) 20, 11-5

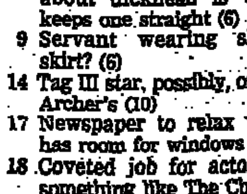
ACROSS

1 Back in a jiffy (6)
4 Back setter with beer or cause resentment (8)
10 Fireman? (9)
11 Put opponents in on active service (5)
12 Unusual gunners hit sappers (4)
13 Unusual gunners hit tender in the dark (5,5)
15 Murderer embracing appropriate industrial leader? (7)
16 Californian trial: stop press news (6)
19 Lodger holding line at home becomes inquisitive (6)
21 Stop on the line: that sounds the essential thing (7)
23 Helper who keeps his place? (10)
25 Place of the hare in running record (4)
27 Chief minister (5)
28 Smuggler of spirit with inconsistent record? (3,6)
29 Settle accounts among friends, about £1 by the other way (3,5)
30 Piece of garment holding record (6)

DOWN

1 Remove from the nether region? (8)
2 Awfully rich Cavalier prince cut short by singing bird (9)
3 Orderly, an old cow (4)
5 Put in order – "planet" comes before "prince" (7)
6 If 1, 50 and 90 scattered, it's out of this world (10)
7 The Irish take what belongs to them (5)
8 Being comparatively coarse about dickhead is what keeps one straight (6)
9 Servant wearing short skirt? (6)
14 Tag III star, possibly, of the Archer's (10)
17 Newspaper to relax with has room for windows (3,6)
18 Coveted job for actor in something like The Cherry Orchard (4,4)
20 Enlarge scope of Einstein's or Keynes's theory (7)
21 The medicine man's medium (6)
22 Applaud about Greek character? Say no more (4,2)
24 Do it to anything and you do it to yourself (5)
26 Complete work with cloth (4)

Solution 9,315



CURRENCIES AND MONEY

Dollar soars on rate rise prospects

MARKETS REPORT

By Simon Kuper

The dollar hit a new 34-month high against the D-Mark yesterday as traders decided the US economy was rushing towards a rate rise.

The US currency soared against the D-Mark in the morning on generally bullish sentiment, even before Mr Alan Greenspan, chairman of the Federal Reserve, said it was crucial that inflation be contained in the near term. Most traders now expect US rates to rise following the Federal Open Market Committee meeting on March 25.

The dollar rose 1.5 pfennigs against the D-Mark to close in London at DM1.709. Against the yen, the US currency rallied Y0.9 to Y121.8. Ms Patricia Elbaz, technical analyst at MMS International in London, said the dollar's bounce off the key psychological support level of Y120 was "a good signal for dollar/yen to return to its year's high of Y124.80".

US economic data yesterday did little to lift the dollar, but offered further evidence of a buoyant economy. Mr Chris Turner, currency strategist at BZW in London, said: "People are positioning themselves for quite a firm US employment report on Friday and a weak German unemployment report on Thursday." Strategists said doubts over European monetary union were also continuing to hurt the D-Mark.

It fell against most European currencies, including the lira. Only the Norwegian krone slid against the German currency, on talk that Norway hoped to reverse the krone's recent rise.

■ Pound in New York

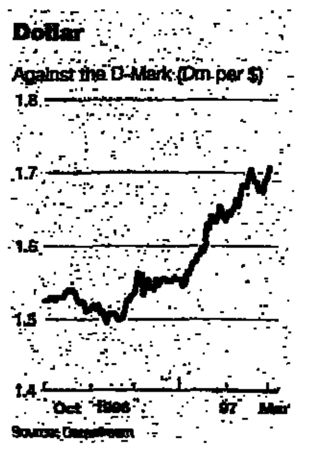
Mar 4	—Latest—	-- Prev. close --
£ spot	1.6145	1.6175
1 mth	1.6136	1.6166
3 mth	1.6120	1.6150
1 yr	1.6050	1.6073

■ Currency strategists said money was being attracted to the dollar by the high yields available on US assets. Mr Peter von Maydell, senior currency economist at UBS in London, pointed out that the yield differential between US and German bonds was already at its highest level since German reunification, and was likely to rise further soon. "The last time the 10-year bond spread was this wide the dollar/D-Mark exchange rate was at DM1.88," he said.

Mr Avinash Persaud, currency strategist at JP Morgan in London, agreed that the yield differential between the US and Germany was "fat and getting fatter". However, he added: "The market has exaggerated the scale of economic weakness in Germany. 'Bleak' is the word that most of our customers are using to describe the German economy, and I think bleak is too harsh."

Dollar

Against the D-Mark (Dm per $)



Source: Datastream

Goldman Sachs yesterday said it had raised its three-month forecast for the dollar against the D-Mark to DM1.77. However, the bank still forecasts that by the end of the year the dollar will be at DM1.60 or below.

■ Mr Kenneth Clarke, the UK chancellor, yesterday appeared to signal that he would leave base rates unchanged well beyond today's monetary policy meeting with Mr Eddie George, governor of the Bank of England.

After Mr Clarke said that inflationary pressures in the UK economy seemed weak, money markets reacted strongly. Short sterling futures contracts jumped to reflect the drop in rate rise expectations. The March 1997 contract barely moved, but every contract from June 1997 through March 1998 rose by 8 basis points. The June 1997 contract is now pricing in base rates of less than 6.50 per cent, compared with today's 6 per cent level. Mr Peter Ostler, head of research at GNI in London, said: "Just about no one in the market is now expecting a rate hike until after the general election." The election is due by May.

Short sterling futures have risen steadily for months, as the money market had previously overestimated the prospects for higher UK rates. Last November, the June 1997 contract was pricing in base rates of nearly 7.25 per cent.

However, as so often this year, the fading of the prospect of an early rate rise failed to hit the pound. It rose with the dollar, touching a 53-month high against the D-Mark to close 2.1 pfennigs higher at DM2.764. That was surprising, as much of sterling's post-August rally has been built on the argument that UK rates were likely to rise.

Mr Persaud said that as long as the dollar stayed strong, sterling would stay strong too.

■ OTHER CURRENCIES

Mar 4	£	$
Czech Rp	47.3257 - 47.3924	29.2730 - 29.2980
Hungary	286.107 - 286.348	176.970 - 177.020
Iran	4852.80 - 4850.10	3000.00 - 3000.00
Kuwait	0.4907 - 0.4911	0.3035 - 0.3036
Poland	4.9705 - 4.9788	3.0745 - 3.0785
Russia	9207.11 - 9215.47	5695.00 - 5697.00
U.A.E.	5.9375 - 5.9416	3.6726 - 3.6731

POUND SPOT FORWARD AGAINST THE POUND

Mar 4		Closing mid-point	Change on day	Bid/offer spread	Day's Mid high	low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	Bank of Eng. Index
Europe													
Austria	(Sch)	19.4554	+0.1534	447 - 660	19.4861	19.3015	19.4119	2.7	19.3554	2.1	-	-	103.6
Belgium	(BFr)	57.0223	+0.4369	757 - 689	57.1140	56.5880	56.8973	2.6	56.6373	2.7	55.3123	3.0	103.4
Denmark	(DKr)	10.5444	+0.0812	398 - 489	10.5619	10.4765	10.5224	2.5	10.4788	2.5	10.2689	2.6	105.7
Finland	(FM)	8.2424	+0.0345	340 - 507	8.2680	8.1770	-	-	-	-	-	-	83.3
France	(FFr)	9.3234	+0.0611	200 - 268	9.3376	9.2658	9.3012	2.9	9.2576	2.8	9.0405	3.0	106.3
Germany	(DM)	2.7644	+0.0219	629 - 658	2.7702	2.7449	2.7578	2.9	2.7443	2.9	2.6775	3.1	105.0
Greece	(Dr)	432.944	+1.485	677 - 210	435.738	428.302	-	-	-	-	-	-	66.6
Ireland	(I£)	1.0324	+0.0024	317 - 330	1.0331	1.0289	1.0321	0.3	1.0312	0.5	1.0246	0.8	102.8
Italy	(L)	2756.40	+11.93	518 - 762	2759.30	2741.09	2759.8	-1.5	2764.65	-1.2	2767.45	-0.4	75.7
Luxembourg	(LFr)	57.0223	+0.4369	757 - 689	57.1140	56.5880	56.8973	2.6	56.6373	2.7	55.3123	3.0	103.4
Netherlands	(Fl)	3.1088	+0.0245	073 - 103	3.1139	3.0882	3.1007	3.1	3.0849	3.1	3.0094	3.2	103.0
Norway	(NKr)	11.2585	+0.1864	537 - 632	11.3094	11.0480	11.234	2.6	11.1855	2.6	10.96	2.7	100.4
Portugal	(Es)	277.374	+1.832	216 - 532	277.826	275.904	277.514	-0.6	277.799	-0.6	-	-	94.6
Spain	(Pta)	233.921	+1.255	775 - 067	234.510	232.820	234.054	-0.7	233.921	0.0	232.446	0.6	77.8
Sweden	(SKr)	12.3658	+0.0844	568 - 748	12.3819	12.2776	12.3468	1.8	12.3073	1.9	12.1113	2.1	84.6
Switzerland	(SFr)	2.3987	+0.0088	976 - 997	2.4025	2.3889	2.3899	4.4	2.372	4.5	2.2878	4.6	102.1
UK	(£)	-	-	-	-	-	-	-	-	-	-	-	98.5
Ecu	-	1.4217	+0.0083	210 - 224	1.4236	1.4132	1.4195	1.9	1.4148	1.9	1.3897	2.3	-
SDR†	-	1.171590	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	1.6169	-0.0024	164 - 174	1.6192	1.6122	-	-	-	-	-	-	-
Brazil	(R$)	1.7004	-0.0019	998 - 009	1.7019	1.6951	-	-	-	-	-	-	-
Canada	(C$)	2.2143	-0.0005	133 - 153	2.2160	2.2044	2.2085	3.2	2.1977	3.0	2.1531	2.8	85.5
Mexico	(New Peso)	12.9000	-0.0635	883 - 117	12.9317	12.8836	-	-	-	-	-	-	-
USA	($)	1.6172	-0.0023	167 - 176	1.6195	1.6125	1.6163	0.7	1.6146	0.6	1.6071	0.6	104.1
Pacific/Middle East/Africa													
Australia	(A$)	2.0511	-0.011	498 - 523	2.0525	2.0418	2.051	0.1	2.0502	0.2	2.0461	0.2	98.4
Hong Kong	(HK$)	12.5240	-0.0182	197 - 283	12.5414	12.4888	12.5193	0.4	12.5084	0.5	12.4682	0.4	-
India	(Rs)	58.0072	-0.0276	506 - 638	58.0660	57.7840	-	-	-	-	-	-	-
Israel	(Shk)	5.4341	+0.0086	261 - 421	5.4442	5.4156	-	-	-	-	-	-	-
Japan	(Y)	197.009	+1.333	914 - 105	197.470	195.780	196.039	5.9	194.179	5.7	185.569	5.8	124.6
Malaysia	(M$)	4.0025	-0.0131	005 - 044	4.0116	3.9958	-	-	-	-	-	-	-
New Zealand	(NZ$)	2.2973	-0.0145	958 - 987	2.3065	2.2923	2.3002	-1.5	2.3063	-1.4	2.3255	-1.2	116.7
Philippines	(Peso)	42.5699	-0.0635	418 - 979	42.6150	42.4655	-	-	-	-	-	-	-
Saudi Arabia	(SR)	6.0647	-0.0091	628 - 666	6.0715	6.0474	-	-	-	-	-	-	-
Singapore	(S$)	2.3065	-0.0004	051 - 080	2.3088	2.3006	-	-	-	-	-	-	-
South Africa	(R)	7.1874	-0.0658	830 - 918	7.2432	7.1787	-	-	-	-	-	-	-
South Korea	(Won)	1398.03	+1.21	440 - 165	1401.65	1394.33	-	-	-	-	-	-	-
Taiwan	(T$)	44.5040	-0.0809	593 - 487	44.6107	44.3953	-	-	-	-	-	-	-
Thailand	(Bt)	41.9489	-0.0043	291 - 686	42.0030	41.8440	-	-	-	-	-	-	-

† Rates for Mar 3. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. Bid, Offer and Mid-rates in both this and the Dollar Spot tables derived from THE WM/REUTERS CLOSING SPOT RATES. Some values are rounded by the F.T.

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Mar 4		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	J.P. Morgan Index
Europe													
Austria	(Sch)	12.0307	+0.1122	274 - 339	12.0590	11.9410	12.018	1.5	11.9707	2.0	11.7757	2.1	103.5
Belgium	(BFr)	35.2610	+0.321	420 - 800	35.3450	35.0240	35.201	2.0	35.0735	2.1	34.5335	2.1	103.6
Denmark	(DKr)	6.5203	+0.0595	193 - 213	6.5354	6.4782	6.5114	1.6	6.493	1.7	6.4113	1.7	105.1
Finland	(FM)	5.0969	+0.0267	931 - 006	5.1180	5.0612	5.0881	2.1	5.0694	2.2	4.9869	2.2	82.6
France	(FFr)	5.7653	+0.0461	648 - 658	5.7847	5.7310	5.7646	2.2	5.7336	2.2	5.6253	2.4	105.9
Germany	(DM)	1.7094	+0.016	090 - 098	1.7137	1.6975	1.7062	2.2	1.6997	2.3	1.665	2.5	104.9
Greece	(Dr)	267.720	+1.305	630 - 810	269.760	265.970	269.275	-7.0	271.845	-6.2	282.87	-5.7	68.2
Ireland	(I£)	1.5665	-0.0059	660 - 670	1.5726	1.5635	1.566	0.3	1.5655	0.3	1.5668	0.0	-
Italy	(L)	1704.48	+9.84	420 - 476	1707.77	1696.16	1707.48	-2.1	1712.33	-1.8	1722.13	-1.0	75.2
Luxembourg	(LFr)	35.2610	+0.321	420 - 800	35.3450	35.0240	35.201	2.0	35.0735	2.1	34.5335	2.1	103.6
Netherlands	(Fl)	1.9224	+0.0179	220 - 228	1.9275	1.9092	1.9186	2.4	1.9108	2.5	1.8751	2.5	103.1
Norway	(NKr)	6.9619	+0.1252	609 - 629	6.9975	6.8333	6.9581	0.6	6.9525	0.5	6.9269	0.5	100.8
Portugal	(Es)	171.520	+1.38	470 - 570	171.980	170.690	171.65	-0.9	171.8	-0.7	171.535	0.0	95.2
Spain	(Pta)	144.650	+0.985	600 - 700	145.100	143.990	144.74	-0.8	144.86	-0.6	144.655	0.0	77.6
Sweden	(SKr)	7.6467	+0.0632	432 - 501	7.6698	7.5950	7.6439	0.4	7.6341	0.7	7.5867	0.8	84.3
Switzerland	(SFr)	1.4833	+0.0076	830 - 835	1.4884	1.4765	1.4786	3.8	1.4691	3.8	1.4236	4.0	101.8
UK	(£)	1.6172	-0.0023	167 - 176	1.6195	1.6125	1.6163	0.7	1.6146	0.6	1.6071	0.6	97.9
Ecu	-	1.1375	-0.0083	372 - 377	1.1447	1.1352	1.1398	-1.2	1.1412	-1.3	1.1564	-1.7	-
SDR†	-	0.72267	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	0.9999	-	998 - 999	0.9999	0.9998	-	-	-	-	-	-	-
Brazil	(R$)	1.0515	+0.0004	514 - 515	1.0514	1.0514	-	-	-	-	-	-	-
Canada	(C$)	1.3693	+0.0017	690 - 695	1.3705	1.3669	1.3684	2.5	1.3612	2.4	1.3398	2.2	85.4
Mexico	(New Peso)	7.9770	-0.04	720 - 820	7.9850	7.9690	8.095	-17.8	8.3815	-19.3	9.222	-15.6	-
USA	($)	-	-	-	-	-	-	-	-	-	-	-	104.4
Pacific/Middle East/Africa													
Australia	(A$)	1.2683	-0.005	679 - 687	1.2692	1.2662	1.269	-0.7	1.2698	-0.5	1.2751	-0.5	100.0
Hong Kong	(HK$)	7.7445	-	440 - 450	7.7458	7.7434	7.7444	0.0	7.745	0.0	7.756	-0.1	-
India	(Rs)	35.8700	+0.035	450 - 950	35.8950	35.8300	36.085	-7.2	36.545	-7.5	-	-	-
Israel	(Shk)	3.3603	+0.0102	563 - 643	3.3658	3.3539	-	-	-	-	-	-	-
Japan	(Y)	121.825	+1	800 - 850	122.150	121.130	121.29	5.3	120.265	5.1	115.465	5.2	126.1
Malaysia	(M$)	2.4750	-0.0045	745 - 755	2.4810	2.4745	2.4779	-1.4	2.4832	-1.3	2.5045	-1.2	-
New Zealand	(NZ$)	1.4206	-0.0068	201 - 211	1.4242	1.4200	1.4229	-1.9	1.4272	-1.9	1.4479	-1.9	-
Philippines	(Peso)	26.3240	-0.001	140 - 340	26.3340	26.3140	-	-	-	-	-	-	-
Saudi Arabia	(SR)	3.7503	-0.0001	501 - 504	3.7505	3.7500	3.7506	-0.1	3.751	-0.1	3.7529	-0.1	-
Singapore	(S$)	1.4263	+0.0018	258 - 268	1.4270	1.4258	1.4241	1.8	1.4195	1.9	1.3983	2.0	-
South Africa	(R)	4.4445	-0.028	430 - 460	4.4750	4.4430	4.4852	-11.0	4.5602	-10.4	4.875	-9.7	-
South Korea	(Won)	864.500	+2	500 - 500	866.700	862.400	-	-	-	-	-	-	-
Taiwan	(T$)	27.5200	-0.01	000 - 400	27.5480	27.4950	27.5201	0.0	27.5203	0.0	-	-	-
Thailand	(Bt)	25.9400	+0.035	350 - 450	25.9480	25.9190	26.03	-4.2	26.1975	-4.0	26.835	-3.5	-

† SDR rate per $ for Mar 3. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices Mar 3: Base average 1990=100.

WORLD INTEREST RATES

MONEY RATES

March 4	Over night	One month	Three mths	Six mths	One year	Lomb. inter.	Dis. rate	Repo rate
Belgium	3 3/8	3 5/16	3 13/32	3 3/8	3 3/8	6.00	2.50	-
France	3 1/8	3 1/4	3 1/8	3 1/8	3 7/32	3.10	-	4.75
Germany	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	4.50	2.50	3.00
Ireland	5 3/8	5 3/8	5 3/8	5 3/8	5 3/8	-	-	6.25
Italy	7 3/8	7 1/4	7 1/4	6 1/4	6 5/8	8.25	6.75	7.35
Netherlands	3	3	3 1/8	3 1/8	3 1/4	-	3.00	3.30
Switzerland	1 1/2	1 1/2	1 3/8	1 3/8	1 3/8	-	1.00	-
US	5 3/8	5 3/8	5 3/8	5 3/8	5 5/8	-	5.00	-
Japan	3/8	1/2	1/2	1/2	5/8	-	0.50	-
■ $ LIBOR FT London								
Interbank Fixing	-	5 1/2	5 5/8	5 3/4	6	-	-	-
US Dollar CDs	-	5.09	5.16	5.28	5.54	-	-	-
ECU Linked Ds	-	4 1/8	4 1/8	4 1/8	4 1/8	-	-	-
SDR Linked Ds	-	3 1/2	3 1/2	3 1/2	3 3/4	-	-	-

$ LIBOR interbank fixing rates are offered rates for $10m quoted to the market by four reference banks at 11am each working day. The banks are: Bankers Trust, Bank of Tokyo Mitsubishi, Barclays and National Westminster.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

EURO CURRENCY INTEREST RATES

Mar 4	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	3 1/4 - 3	3 13/32 - 3 5/16	3 3/8 - 2 1/2	3 7/16 - 3 5/16	3 5/16 - 2 7/16	3 5/16 - [illegible]
Danish Krone	3 13/32 - 3 11/32	3 13/32 - 3 1/2	3 5/8 - 3 13/32	3 11/16 - 3 9/16	3 27/32 - 3 13/16	3 27/32 - [illegible]
German Mark	4 1/8 - 3 7/8	3 1/32 - 3 1/32	3 1/4 - 3 1/8	3 1/4 - 3 1/8	3 1/4 - 3 1/8	3 3/8 - [illegible]
Dutch Guilder	3 - 2 13/16	3 1/32 - 2 7/8	3 3/32 - 2 15/16	3 1/8 - 3	3 1/4 - 3 1/16	3 3/8 - [illegible]
French Franc	3 1/4 - 3 1/8	3 9/32 - 3 3/16	3 5/16 - 3 3/16	3 11/32 - 3 1/4	3 3/8 - 3 9/32	3 15/32 - [illegible]
Portuguese Esc.	6 3/8 - 6 3/32	6 3/8 - 6 3/32	6 5/16 - 6 3/32	6 1/4 - 6 3/32	6 1/16 - 6 1/32	6 1/16 - [illegible]
Spanish Peseta	5 27/32 - 5 13/16	5 31/32 - 5 23/32	6 - 5 13/16	5 13/16 - 5 7/8	5 25/32 - 5 11/16	5 13/16 - [illegible]
Sterling	6 - 5 3/4	5 13/16 - 5 13/16	6 1/32 - 6	6 1/8 - 6 1/8	6 3/8 - 6 1/4	6 23/32 - [illegible]
Swiss Franc	1 3/4 - 1 1/4	1 13/16 - 1 9/16	1 3/4 - 1 1/2	1 3/4 - 1 5/8	1 3/4 - 1 5/8	1 3/4 - [illegible]
Canadian Dollar	3 1/16 - 2 7/8	3 1/16 - 2 7/8	3 3/32 - 2 31/32	3 7/32 - 2 31/32	3 3/8 - 3 1/4	3 3/4 - [illegible]
US Dollar	5 1/4 - 5 1/8	5 3/8 - 5 1/4	5 7/16 - 5 5/16	5 9/16 - 5 7/16	5 23/32 - 5 19/32	6 - 5 [illegible]
Italian Lira	7 13/16 - 6 29/32	7 7/16 - 7 11/32	7 7/16 - 7 11/32	7 3/8 - 7 9/32	7 5/32 - 7 1/32	7 1/16 - [illegible]
Japanese Yen	1/2 - 7/16	15/32 - 13/32	1/2 - 3/8	1/2 - 3/8	1/2 - 3/8	11/16 - [illegible]
Asian $Sing	3 1/8 - 3	3 1/4 - 3 1/8	3 1/4 - 3 1/8	3 1/4 - 3 1/8	3 1/4 - 3 1/8	3 3/8 - [illegible]

Short term rates are call for the US Dollar and Yen, others: two days' notice.

■ THREE MONTH PIBOR FUTURES (MATIF)Paris Interbank offered rate

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	96.63	96.64	+0.01	96.65	96.63	7,464	45,415
Jun	96.62	96.64	+0.02	96.65	96.62	11,765	51,362
Sep	96.58	96.59	+0.01	96.60	96.58	923	39,446

■ THREE MONTH EUROMARK FUTURES (LIFFE)* DM1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Apr	96.80	96.79	-	96.80	96.79	250	6016
Jun	96.78	96.79	+0.01	96.80	96.78	23632	186308
Sep	96.73	96.73	+0.01	96.74	96.72	21057	163920
Dec	96.59	96.60	+0.01	96.62	96.59	19697	180221

■ ONE MONTH EUROMARK FUTURES (LIFFE)* DM3m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	96.75	96.75	+0.01	96.75	96.75	1	19253
Apr		96.81	+0.01			0	4593
May		96.83	-			0	3937
Jun		96.83	-			0	510

■ THREE MONTH EUROLIRA FUTURES (LIFFE)* L1000m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	92.69	92.66	+0.01	92.71	92.66	7722	65752
Jun	93.12	93.10	+0.01	93.19	93.09	29747	109631
Sep	93.38	93.33	+0.01	93.42	93.31	9839	49088
Dec	93.41	93.37	+0.01	93.47	93.37	6752	35032

■ THREE MONTH EURO SWISS FRANC FUTURES (LIFFE) SFr1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	98.29	98.27	-0.01	98.31	98.26	3118	29015
Jun	98.34	98.31	-0.02	98.37	98.30	6785	43735
Sep	98.30	98.27	-	98.32	98.26	2755	16174
Dec	98.18	98.16	-	98.22	98.16	2467	12988

■ THREE MONTH EUROYEN FUTURES (LIFFE) Y100m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar		99.44	-			0	n/a
Jun		99.40	+0.01			0	n/a
Sep	99.31	99.32	+0.01	99.32	99.31	705	n/a

■ THREE MONTH ECU FUTURES (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	95.78	95.80	+0.04	95.80	95.78	1489	10436
Jun	95.78	95.82	+0.05	95.83	95.78	1081	6558
Sep	95.80	95.82	+0.04	95.84	95.80	416	4117
Dec	95.77	95.79	+0.04	95.79	95.77	134	4664

* LIFFE futures also traded on APT

■ EUROLIRA OPTIONS (LIFFE) L1000m points of 100%

Strike Price	CALLS Mar	Jun	Sep	PUTS Mar	Jun	Sep
9250	0.20	0.69	0.99	0.04	0.09	0.16
9275	0.04	0.50	0.80	0.13	0.15	0.22
9300	0.01	0.34	0.63	0.35	0.24	0.30

Est. vol. total, Calls 2730 Puts 1787. Previous day's open int., Calls 172340 Puts 91998

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

Mar 4		BFr	DKr	FFr	DM	I£	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
Belgium	(BFr)	100	18.48	16.35	4.847	1.810	4833	5.452	19.75	486.5	410.2	21.69	4.207	1.754	3.883	2.836	345.5	2.494
Denmark	(DKr)	54.10	10	8.845	2.622	0.979	2615	2.950	10.68	263.2	221.9	11.74	2.276	0.949	2.101	1.534	186.9	1.349
France	(FFr)	61.16	11.31	10	2.965	1.107	2956	3.335	12.08	297.5	250.9	13.27	2.573	1.073	2.375	1.734	211.3	1.525
Germany	(DM)	20.63	3.813	3.373	1	0.373	997.1	1.125	4.074	100.4	84.62	4.475	0.868	0.362	0.801	0.585	71.27	0.514
Ireland	(I£)	55.25	10.21	9.034	2.678	1	2671	3.013	10.91	268.8	226.6	11.99	2.325	0.969	2.145	1.567	190.9	1.378
Italy	(L)	2.069	0.382	0.338	0.100	0.037	100.	0.113	0.409	10.07	8.487	0.449	0.087	0.036	0.080	0.059	7.148	0.052
Netherlands	(Fl)	18.34	3.390	2.999	0.889	0.332	886.5	1	3.622	89.22	75.23	3.979	0.772	0.322	0.712	0.520	63.36	0.457
Norway	(NKr)	50.64	9.361	8.280	2.455	0.917	2448	2.761	10	246.4	207.7	10.99	2.131	0.888	1.968	1.436	175.0	1.263
Portugal	(Es)	20.56	3.800	3.361	0.996	0.372	993.5	1.121	4.059	100.	84.32	4.459	0.865	0.360	0.798	0.583	71.02	0.513
Spain	(Pta)	24.38	4.506	3.986	1.182	0.441	1178	1.329	4.814	118.6	100.	5.289	1.026	0.428	0.947	0.691	84.22	0.608
Sweden	(SKr)	46.10	8.521	7.537	2.234	0.834	2228	2.513	9.103	224.3	189.1	10	1.939	0.808	1.790	1.307	159.3	1.150
Switzerland	(SFr)	23.77	4.393	3.886	1.152	0.430	1149	1.296	4.694	115.6	97.50	5.156	1	0.417	0.923	0.674	82.12	0.593
UK	(£)	57.02	10.54	9.323	2.764	1.032	2756	3.109	11.26	277.4	233.9	12.37	2.399	1	2.214	1.617	197.0	1.422
Canada	(C$)	25.75	4.761	4.211	1.248	0.466	1245	1.404	5.086	125.3	105.6	5.587	1.084	0.452	1	0.730	88.98	0.642
US	($)	35.26	6.518	5.766	1.709	0.638	1704	1.923	6.964	171.6	144.7	7.650	1.484	0.618	1.369	1	121.8	0.879
Japan	(Y)	28.94	5.350	4.732	1.403	0.524	1399	1.578	5.716	140.8	118.7	6.279	1.218	0.508	1.124	0.821	100.	0.722
Ecu		40.10	7.412	6.556	1.944	0.726	1938	2.186	7.918	195.1	164.5	8.699	1.687	0.703	1.557	1.137	138.5	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ D-MARK FUTURES (IMM) DM 125,000 per DM

	Open	Latest	Change	High	Low	Est. vol	Open int.
Mar	0.5898	0.5848	-0.0046	0.5898	0.5847	22,856	90,761
Jun	0.5918	0.5880	-0.0048	0.5931	0.5875	2,132	10,317
Sep	0.5928	0.5926	-0.0039	0.5929	0.5926	112	2,534

■ SWISS FRANC FUTURES (IMM) SFr 125,000 per SFr

	Open	Latest	Change	High	Low	Est. vol	Open int.
Mar	0.6770	0.6751	-0.0025	0.6782	0.6727	7,230	49,225
Jun	0.6836	0.6816	-0.0025	0.6845	0.6787	440	4,502
Sep	-	0.6890	-0.0020	-	0.6890	20	1,788

■ JAPANESE YEN FUTURES (IMM) Yen 12.5 per Yen 100

	Open	Latest	Change	High	Low	Est. vol	Open int.
Mar	0.8261	0.8203	-0.0059	0.8274	0.8199	21,612	73,402
Jun	0.8363	0.8309	-0.0060	0.8380	0.8304	1,112	6,449
Sep	0.8439	0.8420	-0.0061	0.8439	0.8425	20	683

■ STERLING FUTURES (IMM) £62,500 per £

	Open	Latest	Change	High	Low	Est. vol	Open int.
Mar	1.6172	1.6142	-0.0034	1.6186	1.6132	9,351	34,777
Jun	1.6158	1.6118	-0.0032	1.6158	1.6116	634	3,171
Sep	1.6130	1.6080	-0.0038	-	1.6130	14	1,235

EMS EUROPEAN CURRENCY UNIT RATES

Mar 4	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Portugal	197.398	196.259	+0.196	-0.58	2.81	4
Finland	5.85424	5.83344	+0.00494	-0.36	2.58	2
Ireland	0.799709	0.730267	-0.002603	-8.57	11.79	58
Spain	163.826	165.634	+0.12	1.10	1.10	-8
Netherlands	2.16979	2.19838	+0.0033	1.32	0.88	-10
Germany	1.92573	1.95470	+0.00295	1.50	0.70	-15
Denmark	7.34555	7.45568	+0.00803	1.50	0.70	-10
Belgium	39.7191	40.3273	+0.0589	1.53	0.67	-11
Austria	13.5485	13.7570	+0.0207	1.54	0.66	-11
France	6.45863	6.59422	+0.00401	2.10	0.11	-18
Italy	1906.48	1948.66	-5.43	2.21	0.00	-16
NON ERM MEMBERS						
Greece	295.269	306.396	-0.575	3.77	-1.50	-
UK	0.793103	0.707637	-0.003891	-10.78	14.56	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate. 17/9/92: Sterling suspended from ERM. Adjustment calculated by the Financial Times.

■ PHILADELPHIA SE £/$ OPTIONS £31,250 (cents per pound)

Strike Price	CALLS Mar	Apr	May	PUTS Mar	Apr	May
1.600	2.20	2.94	3.58	0.33	1.22	1.93
1.610	1.49	2.39	3.01	0.62	1.59	2.35
1.620	0.93	1.87	2.51	1.06	2.07	2.80

Previous day's vol., Calls 284 Puts 47. Prev. day's open int., Calls 34,897 Puts 50,661

■ PHILADELPHIA SE D-MARK/$ OPTIONS DM62,500 ($ per DM)

Strike Price	CALLS Mar	Apr	May	PUTS Mar	Apr	May
0.590	0.43	0.81	1.16	0.45	0.74	0.97
0.595	0.25	0.59	0.92	0.75	1.05	1.23
0.600	0.14	0.41	0.71	1.12	1.33	1.53

Previous day's vol., Calls 432 Puts 115. Prev. day's open int., Calls 31,697 Puts 32,205

■ THREE MONTH EURODOLLAR (IMM) $1m points of 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Mar	94.41	94.43	+0.01	94.44	94.42	45,320	367,403
Jun	94.18	94.21	+0.02	94.22	94.18	98,968	402,449
Sep	93.98	94.01	+0.03	94.02	93.97	101,317	308,985

■ US TREASURY BILL FUTURES (IMM) $1m per 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Mar	94.89	94.91	+0.02	94.91	94.89	475	3,785
Jun	94.75	94.78	+0.01	94.78	94.75	357	4,719
Sep	94.57	94.57	+0.02	94.57	94.57	51	1,811

All Open interest figs. are for previous day

■ EUROMARK OPTIONS (LIFFE) DM1m points of 100%

Strike Price	CALLS Mar	Apr	May	Jun	PUTS Mar	Apr	May	Jun
9675	0.04	0.07	0.09	0.11	0.02	0.03	0.05	0.07
9700	0.01	0.02	0.02	0.02	0.23	0.22	0.23	0.23
9725	0	0	0	0	0.48	0.46	0.46	0.46

Est. vol. total, Calls 4751 Puts 6044. Previous day's open int., Calls 525324 Puts 315642

■ EURO SWISS FRANC OPTIONS (LIFFE) SFr 1m points of 100%

Strike Price	CALLS Mar	Jun	Sep	PUTS Mar	Jun	Sep
9850	0.01	0.06	0.09	0.24	0.25	0.31
9875	0	0.01	0.02	0.48	0.45	0.50

Est. vol. total, Calls 0 Puts 0. Previous day's open int., Calls 3935 Puts 3960

UK INTEREST RATES

LONDON MONEY RATES

Mar 4	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sterling CDs	-	-	[illegible]	[illegible]	[illegible]	[illegible]
Treasury Bills	-	-	[illegible]	[illegible]	-	-
Bank Bills	-	-	[illegible]	[illegible]	[illegible]	-
Local authority deps.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Discount Market deps.	[illegible]	[illegible]	-	-	-	-

UK clearing bank base lending rate 6 per cent from October 30, 1996

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	[illegible]	[illegible]	[illegible]	[illegible]	4 1/4

Certs of Tax dep. under £100,000 is 2pc. Deposits withdrawn for cash 1½pc. Ave. tender rate of discount on Feb 28, 5.7974pc. ECGD fixed rate Stg. Export Finance. Make up day Feb 28, 1997. Agreed rate for period Mar 26, 1997 to Apr 25, 1997, Scheme III 7.53pc. Reference rate for period Feb 1, 1997 to Feb 28, 1997, Scheme IV & V 6.258pc. Finance House Base Rate 6½pc from Mar 1, 1997

■ THREE MONTH STERLING FUTURES (LIFFE) £500,000 points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	93.73	93.73	+0.01	93.74	93.72	16124	98011
Jun	93.49	93.54	+0.07	93.57	93.49	27784	119894
Sep	93.27	93.32	+0.05	93.34	93.27	12614	86937
Dec	93.12	93.17	+0.06	93.20	93.12	11473	61392
Mar	93.03	93.05	+0.06	93.08	93.02	5246	42245

Traded on APT. All Open interest figs. are for previous day.

■ SHORT STERLING OPTIONS (LIFFE) £500,000 points of 100%

Strike Price	CALLS Mar	Jun	Sep	PUTS Mar	Jun	Sep
9350	0.23	0.16	0.13	0	0.12	0.31
9375	0.02	0.05	0.05	0.04	0.26	0.49
9400	0	0.01	0.02	0.27	0.47	0.70

Est. vol. total, Calls 981 Puts 830. Previous day's open int., Calls 226216 Puts 198575

BASE LENDING RATES

	%		%		%
Adam & Company	6.00	Duncan Lawrie	6.00	Royal Bk of Scotland	6.00
Allied Irish Bank (GB)	6.00	Exeter Bank Limited	7.00	•Singer & Friedlander	6.00
•Henry Ansbacher	6.00	Financial & Gen Bank	7.00	•Smith & Williamson Secs	6.00
Bank of Baroda	6.00	•Robert Fleming & Co	6.00	Scottish Widows Bank	6.00
Banco Bilbao Vizcaya	6.00	Girobank	6.00	TSB	6.00
Bank of Cyprus	6.00	•Guinness Mahon	6.00	United Bank of Kuwait	6.00
Bank of Ireland	6.00	Habib Bank AG Zurich	6.00	Unity Trust Bank Plc	6.00
Bank of India	6.00	•Hambros Bank	6.00	Western Trust	6.00
Bank of Scotland	6.00	Heritable & Gen Inv Bk	6.00	Whiteaway Laidlaw	6.00
Barclays Bank	6.00	•Hill Samuel	6.00	Yorkshire Bank	6.00
Brit Bk of Mid East	6.00	C. Hoare & Co	6.00		
•Brown Shipley & Co Ltd	6.00	Hongkong & Shanghai	6.00		
Citibank NA	6.00	Julian Hodge Bank	6.00		
Clydesdale Bank	6.00	•Leopold Joseph & Sons	6.00		
The Co-operative Bank	6.00	Lloyds Bank	6.00		
Coutts & Co	6.00	Midland Bank	6.00		
Cyprus Popular Bank	6.00	NatWestminster	6.00		
		•Rea Brothers	6.00		

• Members of London Investment Banking Association
* In administration

LEGAL NOTICES

GARY MILLIN LIMITED

The Insolvency Act 1986

[illegible]

Dated 24th February 1997

P S DUNN, Liquidator

TENDER NOTICE
UK GOVERNMENT ECU TREASURY BILLS
For tender on 11 March 1997

1. The Bank of England announces the issue by Her Majesty's Treasury of ECU 1,000 million nominal of UK Government ECU Treasury Bills, for tender on a bid-yield basis on Tuesday, 11 March 1997. An additional ECU 50 million nominal of Bills will be allotted directly to the Bank of England for the account of the Exchange Equalisation Account.

2. The ECU 1,000 million of Bills to be issued by tender will be dated 13 March 1997 and will be in the following maturities:

ECU 200 million for maturity on 10 April 1997.
ECU 500 million for maturity on 12 June 1997.
ECU 300 million for maturity on 11 September 1997.

3. All tenders must be made on the printed application forms available on request from the Bank of England. Completed application forms must be lodged, by hand, at the Bank of England, Customer Settlement Services, Threadneedle Street, London not later than 10.30 a.m., London time, on Tuesday, 11 March 1997. Payment for Bills allotted will be due on Thursday, 13 March 1997.

4. Each tender at each yield for each maturity must be made on a separate application form for a minimum of ECU 500,000 nominal. Tenders above this minimum must be in multiples of ECU 100,000 nominal.

5. Tenders must be made on a yield basis (calculated on the basis of the actual number of days to maturity and a year of 360 days) rounded to two decimal places. Each application form must state the maturity date of the Bills for which application is made, the yield bid and the amount tendered for.

6. Notification will be despatched on the day of the tender to applicants whose tenders have been accepted in whole or in part. For applicants who have requested credit of Bills in global form to their account with ESO, Euroclear or CEDEL, Bills will be credited in the relevant systems against payment. For applicants who have requested definitive Bills, Bills will be available for collection at Customer Settlement Services, Bank of England after 1.30 p.m. on Thursday, 13 March 1997 provided cleared funds have been credited to the Bank of England's ECU Treasury Bills Account No. 59005516 with Lloyds Bank Plc, Bank Relations, St George's House, PO Box 787, 6-8 Eastcheap, London EC3M 1LL. Definitive Bills will be available in amounts of ECU 10,000, ECU 50,000, ECU 100,000, ECU 500,000, ECU 1,000,000, ECU 5,000,000 and ECU 10,000,000 nominal.

7. Her Majesty's Treasury reserves the right to reject any or part of any tender.

8. The arrangements for the tender are set out in more detail in the Information Memorandum on the UK Government ECU Treasury Bill programme issued by the Bank of England on behalf of Her Majesty's Treasury on 28 March 1989, and in supplements to the Information Memorandum. All tenders will be subject to the provisions of the Information Memorandum (as supplemented) and to the provisions of this notice.

9. The ECU 50 million of Bills to be allotted directly to the Bank of England for the account of the Exchange Equalisation Account will be for maturity on 11 September 1997. These Bills may be made available through sale and repurchase transactions to the market makers listed in the Information Memorandum (as supplemented) in order to facilitate settlement.

10. Copies of the Information Memorandum (and supplements to it) may be obtained at the Bank of England. UK Government ECU Treasury Bills are issued under the Treasury Bills Act 1877, the National Loans Act 1968 and the Treasury Bills Regulations 1968 as amended.

Bank of England
4 March 1997

Offshore Funds and Insurances

FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

LUXEMBOURG (SIB RECOGNISED)

LUXEMBOURG (REGULATED)(**)

OFFSHORE INSURANCES

FT MANAGED FUNDS SERVICE

Offshore Funds

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

OFFSHORE AND OVERSEAS

BERMUDA (SIB RECOGNISED)

BERMUDA (REGULATED)(**)

GUERNSEY (SIB RECOGNISED)

GUERNSEY (REGULATED)(**)

IRELAND (SIB RECOGNISED)

IRELAND (REGULATED)(**)

ISLE OF MAN (SIB RECOGNISED)

ISLE OF MAN (REGULATED)(**)

JERSEY (SIB RECOGNISED)

JERSEY (REGULATED)(**)

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

BANKS, RETAIL

BREWERIES, PUBS & REST

BUILDING & CONSTRUCTION

BUILDING MATS. & MERCHANTS

CHEMICALS

CHEMICALS - Cont.

DISTRIBUTORS

DIVERSIFIED INDUSTRIALS

ELECTRICITY

ELECTRONIC & ELECTRICAL EQPT

ENGINEERING

ENGINEERING - Cont.

EXTRACTIVE INDUSTRIES - Cont.

FOOD PRODUCERS

INSURANCE - Cont.

INVESTMENT TRUSTS

INVESTMENT TRUSTS - Cont.

ENGINEERING - Cont.

GAS DISTRIBUTION

HEALTH CARE

ENGINEERING, VEHICLES

EXTRACTIVE INDUSTRIES

HOUSEHOLD GOODS

INSURANCE

INV TRUSTS SPLIT CAPITAL

هكذا من الاصل

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Old Mutual International (Guernsey) Ltd

Sun Alliance International Life

Sun Life International (IOM) Ltd

OTHER OFFSHORE FUNDS

ATSP Management Ltd

AXA Asset Management

● MANAGED FUNDS NOTES

LONDON STOCK EXCHANGE

FTSE 100 surges 50.6 to new closing record

MARKETS REPORT

By Steve Thompson, UK Stock Market Editor

The emergence of a fresh flurry of institutional buying interest, said to have come from funds running underweight positions in stocks, provided just the boost the UK market needed and drove the two leading FTSE indices, the 100 and 250, to record closes yesterday.

This demand was said to have caught marketmakers short of stock and prompted a general scramble among the big trading houses to replenish their depleted books.

There was also talk of a big trading programme heavily weighted on the buy side, although most marketmakers said the story was just a rumour and not borne out by close scrutiny of turnover.

The FTSE 100 index raced up to close 50.6 better at a new closing record of 4,357.7, only 4.7 away from its all-time intraday peak. Similarly, the FTSE 250, although underperforming the leading index, still managed a 12.1 gain at a new closing high of 4,666.6, only 8.6 off its intraday record.

The FTSE SmallCap, which has outpaced both the 100 and 250 over recent weeks, made progress, albeit on a lesser scale, finishing 1.8 higher at 2,353.2.

Initial impetus came from Wall Street's rally on Monday, when the Dow Jones Industrial Average turned an early near 50-point slide into a closing gain of 41 points. The Dow kicked off uncertainly yesterday, but picked up after London closed.

Traders said Wall Street's recovery came amid lessening concerns about the short-term outlook for US interest rates. Monday's US economic news was said to have slightly reduced the chances of a rate rise after the next Federal Reserve open market committee meeting, scheduled for March 25.

A further test for the market will come on Friday when the February US non-farm payroll report is published.

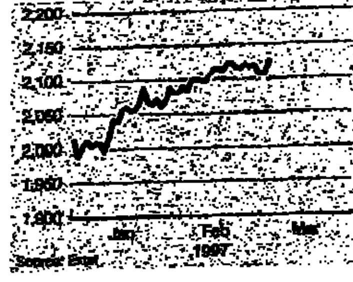
This morning brings the regular monthly meeting between Mr Kenneth Clarke, the chancellor, and Mr Eddie George, governor of the Bank of England.

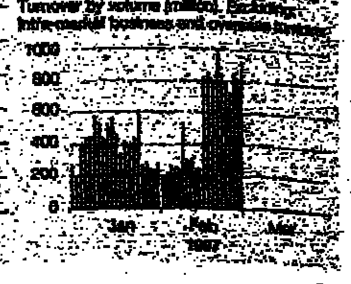
Strategists said London would obviously respond to US trends, but pointed out that the UK had not fully followed Wall Street's upward move and could withstand a sell-off across the Atlantic. "London is more firmly based and there is also the possibility of more takeover activity in the short to medium-term," said one specialist.

He still felt that Footsie had the potential to run on to 4,400 and possibly beyond that figure, "if the gilts market holds up at current levels", but he also warned about the potential for more currency- induced profit warnings and earnings downgrades.

Turnover reached 839.8m at the 6pm count. The value of customer business for Monday was not available yesterday.

There was one shock for the market, despite the overall strong performance. MFI, the furniture to kitchens group, reported disappointing sales in the second half, triggering a hefty slide in its shares as well as in other furniture stocks.





Indices and ratios

FTSE 100	4357.7	+50.6	FT 30	2884.6	+38.8
FTSE 250	4666.6	+12.1	FTSE Non-Fins p/e	18.67	18.51
FTSE 350	2154.4	+20.9	FTSE 100 Fut Mar	4342.0	+51.0
FTSE All-Share	2126.38	+19.11	10 yr Gilt yield	7.25	7.26
FTSE All-Share yield	3.54	3.57	Long gilt/equity yld ratio	2.07	2.08

Best performing sectors

1 Diversified Inds .... +2.6
2 Household Goods .... +1.9
3 Banks Retail .... +1.7
4 Oil Integrated .... +1.7
5 Pharmaceuticals .... +1.5

Worst performing sectors

1 Health Care .... -1.4
2 Retailers: Gen .... -1.2
3 Textiles & Apparel 0.0
4 Extractive Inds 0.1
5 Building & Cons 0.3

Takeover rumours abound

By Peter John, Lisa Wood and Joel Kibazo

Bid talk was all the rage yesterday as marketmakers positioned themselves for one big move in the Footsie before the general election.

None of the potential targets were particularly new or imaginative, but they provided a positive feeling on a day when the market lacked big news.

The two most popular candidates were Zeneca and Reckitt & Colman. Zeneca lifted 46 to 1882½p on the back of US buying on Monday night. The shares suffered last Friday after news the US Food and Drug Administration warned the UK pharmaceutical group about one of its manufacturing plants, but had more than recovered their losses on Monday.

Reckitt, which has in the past been linked speculatively with Unilever, jumped 23½ to 815p.

Smith & Nephew fell 6¾ to 184¼p as analysts came out with some savage downgrades following the announcement of the healthcare group's 1996 figures.

Lehman Brothers has a comparatively optimistic current-year profit forecast of £193m. But several analysts, such as BZW and SGST, have cut their forecasts to around £175m, some £7m below the flat figure announced yesterday.

Much of these cuts reflect the pressure of currencies, but analysts have also written in a £5m charge for the launch of its Dermagraft product to treat diabetic foot ulcers.

Finally, the company stamped firmly on the recent revival of takeover talk, saying it lacked all foundation. The company said there was no need to merge and it was actually looking for acquisitions to boost its presence in a consolidating industry.

Speculation has persistently favoured Johnson & Johnson of the US. One analyst said yesterday: "We took a straw poll in the office and it appears that the story has been in the market for at least 30 years."

MFI Furniture was the worst performer in the FTSE 250, falling 40½ to 156½p, after a cautious trading statement from the company provoked a rash of downgrades from shocked brokers.

MFI said sales were up 7.3 per cent in the first 16 weeks of the second half, but cautioned that the increase was "lower than that achieved in the first half". It said its market place had not yet seen a sustained uplift in demand.

Analysts said the upturn in housing had fed through to the upper end of the kitchen market, not the mass market.

The drop in the share price was contained to some extent by NatWest Securities which advised clients to "buy" at 160p or below. The broker downgraded its current-year pretax profit forecast to £75m from £84.5m and next year's to £95m from £106m.

Mr John Richards, the broker's retail analyst, said the 20 per cent movement in the price more than compensated for changes in forecasts. No blame, he said, was attached to MFI's management. Demand at the lower end of the market was not as buoyant as some people said.

The news from MFI affected middle-market Carpetright, which fell 20¾ to 604p and DFS, the furniture retailer, which softened 14¼ to 595p. Kingfisher, which owns Darty in France, slipped 9 to 681½p following MFI's statement that the strong pound had undermined earnings from France.

The sale by Littlewoods of its high-street shops hit Marks and Spencer, which fell 9 to 488½p, with some imaginative marketmakers speculating that the purchaser could pose a threat to Marks. One broker suggested that such analysis was "precarious". Asda, seen by some in the market as a potential purchaser, eased to 111½p.

Grand Metropolitan hardened 6¼ to 460p after Mr George Bull, its chairman, told the annual meeting that trading in the first four months of the year to the end of September has developed as expected.

J D Wetherspoon hardened 5 to 1147½p after results ahead of expectations. However, Dresdner Kleinwort Benson, the house broker, said that its current-year forecasts were unchanged as the company was installing new pub structures which would increase staff costs and keep profit margins static.

Elsewhere in pharmaceuticals, SmithKline Beecham improved 17 to 921p on suggestions that some US brokers were coming out with some very high forecasts for the pricing of Coreg, its heart failure drug which received provisional FDA approval last week.

Barclays rose 16 to 1110p in active trade as the bank continued its share buy-back operations.

Dealers said the bank bought more than 10m shares at 1096p apiece in early dealing. By the close, 29m shares had changed hands. Last week, the company sent its brokers into the market with a target of purchasing up to 26m shares, but only 9.2m followed by a block of 1.5m, were actually bought.

Business services group Hays surrendered another 12¼ to 524¼p, to extend Monday's retreat, as cautious press and analysts comments exacted a heavy toll on the stock.

Buying ahead of Thursday's full-year figures in industrial conglomerate BTR helped make it the best performing stock in the FTSE 100. The shares gained 13, or 5.4 per cent, to 255½p, after busy trade of 11m.

British Aerospace broke through the 1300 barrier to close 27¼ ahead at 1322p, an all-time high for the stock. Investors have been encouraged by the recent figures.

Among property stocks, in its first deal since it came to the market in November 1996, Minerva acquired a mixed portfolio of commercial property along with a small residential portfolio from the Ladbroke Group for a total of £25m. The company said the purchase has a book value of £34.6m. Shares in Minerva hardened 2 to 156½p.

Centrica was steady at 64p on very heavy turnover of 35m shares after the gas supplier introduced a new discount price scheme. The move was seen as a positive response to recent competitive threats, but dependent on regulatory approval.

David S. Smith, the packaging group, was one of the brightest performers among second-line stocks as the company took analysts on a tour of its sites in Belgium and the UK.

The shares were trading around 320p at the start of the year and bounced 15¼ to 261½p yesterday. The company has been battered by the strength of sterling, but it is hoped that recent capital expenditure is beginning to pay dividends.

FT 30 INDEX

	Mar 4	Mar 3	Feb 28	Feb 27	Feb 26	Yr ago	*High	*Low
FT 30	2884.6	2845.8	2847.5	2870.6	2863.7	2807.9	2885.2	2668.8
Ord. div. yield	3.92	3.97	3.96	3.94	3.95	3.82	4.22	3.76
P/E ratio net	17.74	17.50	17.53	17.65	17.62	17.08	17.85	15.80
P/E ratio nil	17.52	17.28	17.32	17.44	17.40	16.85	17.69	15.71

FT 30 since compilation: high 2885.2 19/04/96; low 49.4 26/06/40. Base Date: 1/7/35.

FT 30 hourly changes

Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High	Low
2857.1	2859.0	2863.9	2871.8	2871.4	2872.9	2882.2	2880.4	2881.3	2884.8	2857.0

	Mar 4	Mar 3	Feb 28	Feb 27	Feb 26	Yr ago
SEAQ bargains	50,812	50,381	46,175	45,962	49,339	37,290
Equity turnover (£m)†	-	NA	3101.5	2888.6	2503.9	1899.6
Equity bargains†	-	NA	41,371	44,713	43,298	43,115
Shares traded (m)†	-	NA	926.0	823.5	850.3	707.3

†Excluding intra-market and overseas turnover.

	Mar 4	Mar 3	Feb 28	Feb 27	Feb 26	Yr ago	*High	*Low
FTSE AIM	1132.3	1133.9	1134.3	1133.9	1132.8	998.1	1140.4	965.7

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London market data

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	787	Total Highs	152	Total contracts	69,285
Total Falls	455	Total Lows	34	Calls	33,401
Same	1,219			Puts	35,884

Mar 4 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

FTSE 100 INDEX FUTURES (LIFFE) £25 per full index point (APT)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	4312.0	4342.0	+51.0	4352.0	4306.0	17540	58608
Jun	4330.0	4362.0	+51.0	4369.0	4329.5	3574	7863
Sep	4393.0	4387.0	+50.5	4393.0	4393.0	30	2267

FTSE 250 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Mar	4670.0	4670.0	+11.0	4670.0	4670.0	199	6376
Jun	4690.0	4701.0	+11.0	4690.0	4690.0	150	0

FTSE 100 INDEX OPTION (LIFFE) (*4354) £10 per full index point

	4200 C	4200 P	4250 C	4250 P	4300 C	4300 P	4350 C	4350 P	4400 C	4400 P	4450 C	4450 P	4500 C	4500 P	4550 C	4550 P
Mar	157	9	112½	16	72	27	39½	47	17½	76	6	115	1	183	1	219
Apr	188	34	142	45	106½	61	74½	80	50	106½	31½	138½	17½	174	8	216½
May	203½	52½	165	64	132	61	100½	101½	77½	128½	55	156	40	191	28	228
Jun	231	70	197	88	168	104½	132	121½	108	147	81½	173½	62	204½	46½	238
Dec†	337½	128½			273	161			218	207			169½	257		

Calls 10,344 Puts 16,062

EURO STYLE FTSE 100 INDEX OPTION (LIFFE) £10 per full index point

	4175 C	4175 P	4225 C	4225 P	4275 C	4275 P	4325 C	4325 P	4375 C	4375 P	4425 C	4425 P	4475 C	4475 P	4525 C	4525 P
Mar	174	7½	129½	13	88½	22	53½	36½	26	59	10	92½	3	135½	1	183
Apr	198	29½	157½	38½	129½	51	98	68	68	89½	38	117½	22	151	12	197
May	218	45	180½	68½	146	71½	115½	90½	88½	113½	66	140	47	170½	32	205
Jun	249½	66	213	78½	178	92½	146	109½	117½	130	93	155	76½	181½	52	213½
Sept†			260	112			205½	145½			152	189			103½	241½

Calls 10,641 Puts 13,147 * Underlying index value. Premiums shown are based on settlement prices. † Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt. cap (£m.)	1996/97 High	1996/97 Low	Stock	Close price p	+/-	Net div.	Div. cov.	Grs yld	P/E net
§100	F.P.	3.40	111½	108½	†Anglo-Welsh	111½		L2.4	-	2.7	-
§125	F.P.	23.6	148½	121½	†Aortech	136½		-	-	-	-
§	F.P.	8.97	180	126½	†CSB Publishing	175		-	-	-	-
§	F.P.	1.80	1½	½	†Do Warrants	1		-	-	-	-
75½	F.P.	2,832	77½	55	Centrica	64	+¼	-	-	-	-
§250	F.P.	91.2	316	305	Core Group	313½	+3½	-	-	-	-
525	F.P.	2,774	570½	520	Energy Group	532½	+8	W21.0	2.5	4.9	10.3
§28	F.P.	6.00	31½	28½	Howie	31	-½	-	-	-	1.6
§125	F.P.	28.7	150	141½	†Infobank Intl	149	+½	-	-	-	-
§140	F.P.	21.5	171	164½	Nord Anglo Ed	167½	-2½	W3.92	1.6	2.9	17.7
§	F.P.	69.3	292½	220	PSD (A/L)	286½	+1½	5.43	2.4	2.4	22.3
§	F.P.	10.1	5¼	3¼	†Screen	5¼	+1¼	-	-	-	21.6
-	F.P.	12.4	61½	47½	TR Euro Gwth Wts	57½		-	-	-	-
§100	F.P.	6.39	105	98	Tea Plantations	102		-	-	-	-
§	F.P.	24.1	126½	95½	Technoplast	95½	-11	-	-	-	-
§40	F.P.	5.93	43½	40½	†VFG	41½		-	-	-	26.2

† Alternative Investment Market. § Placing price. * Introduction. For a full explanation of all other symbols please refer to The London Share Service notes.

FT GOLD MINES INDEX

	Mar 3	% chg on day	Feb 28	Year ago	Gross div yield %	P/E ratio	52 week High	52 week Low
Gold Mines Index (32)	1884.64	-1.2	1907.49	2337.81	1.65	-	2495.53	1674.81
Regional Indices								
Africa (14)	2294.48	+0.1	2293.21	3156.30	3.90	34.21	3252.18	1918.45
Australasia (6)	2087.37	-0.1	2089.16	2861.03	2.64	22.58	2861.03	1941.72
North America (12)	1748.80	-1.9	1780.66	2032.38	0.53	65.12	2134.61	1550.58

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FTSE Actuaries Share Indices — The UK Series

Produced in conjunction with the Faculty and Institute of Actuaries

	Mar 4	Day's chge%	Mar 3	Feb 28	Feb 27	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FTSE 100	4357.7	+1.2	4307.1	4308.3	4339.2	3777.1	3.66	2.09	16.35	18.14	1830.76
FTSE 250	4666.6	+0.3	4654.5	4654.4	4663.0	4272.2	3.36	1.50	24.77	11.97	1917.81
FTSE 250 ex IT	4709.6	+0.2	4698.0	4697.2	4703.3	4293.2	3.45	1.52	23.79	11.65	1939.96
FTSE 350	2154.4	+1.0	2133.5	2134.0	2146.9	1889.0	3.59	1.97	17.62	8.24	1848.60
FTSE 350 Higher Yield	2070.2	+1.1	2047.4	2048.4	2056.1	1882.5	4.71	1.87	14.21	5.98	1497.28
FTSE 350 Lower Yield	2246.0	+0.8	2227.1	2227.0	2245.4	1901.0	2.49	2.17	23.13	10.67	1585.36
FTSE SmallCap	2353.16	+0.1	2351.37	2353.90	2355.22	2069.46	2.90	1.66	25.68	6.83	1871.88
FTSE SmallCap ex IT	2363.56	....	2362.54	2364.78	2365.21	2050.17	3.06	1.74	23.45	6.72	1984.98
FTSE All-Share	2126.38	+0.9	2107.27	2107.86	2119.74	1864.59	3.54	1.95	18.07	7.98	1852.09

FTSE Actuaries Industry Sectors

	Mar 4	Day's chge%	Mar 3	Feb 28	Feb 27	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 MINERAL EXTRACTION(20)	4015.45	+1.3	3962.11	3978.42	4016.58	3270.97	3.73	2.10	15.98	15.36	1766.80
12 Extractive Industries(5)	4025.09	+0.1	4019.70	4007.05	4051.24	4204.61	4.03	2.33	13.32	0.00	1199.67
15 Oil, Integrated(3)	4129.74	+1.7	4062.59	4080.67	4119.46	3308.01	3.94	2.08	15.25	20.17	1869.02
16 Oil Exploration & Prod(12)	3454.47	+0.3	3442.53	3478.81	3508.42	2241.48	1.57	1.79	44.37	0.00	2094.36
20 GEN INDUSTRIALS(272)	2020.84	+1.2	1997.66	1993.55	1996.90	2083.15	3.89	1.89	17.04	4.41	1133.18
21 Building & Construction(35)	1369.19	+0.3	1365.64	1369.07	1369.82	1114.37	3.00	1.70	24.46	1.64	1170.50
22 Building Matls & Merchs(32)	1901.01	+1.3	1875.73	1873.53	1877.10	1933.42	4.19	2.53	11.76	0.44	982.69
23 Chemicals(26)	2354.10	+1.2	2326.33	2339.72	2345.72	2578.94	4.41	1.48	19.61	22.49	1153.84
24 Diversified Industrials(16)	1497.37	+2.6	1459.54	1448.03	1449.93	1790.22	4.78	1.61	16.20	4.02	868.45
25 Electronic & Elect Equip(39)	2288.16	+1.2	2261.76	2247.75	2262.47	2360.90	3.42	1.36	27.19	1.47	1216.01
26 Engineering(70)	2572.47	+0.7	2555.56	2546.46	2551.72	2341.19	3.20	2.40	16.25	3.75	1594.05
27 Engineering, Vehicles(13)	2885.61	+1.1	2855.37	2854.10	2856.50	2864.95	3.76	1.71	19.41	0.25	1524.24
28 Paper, Pckg & Printing(27)	2527.50	+0.8	2508.27	2513.41	2529.63	2739.44	4.13	1.77	17.08	0.00	1078.13
29 Textiles & Apparel(14)	1077.59	....	1077.62	1076.35	1077.10	1489.14	6.52	1.29	14.83	2.25	683.24
30 CONSUMER GOODS(86)	4131.63	+1.0	4089.92	4093.93	4120.47	3641.41	3.52	1.90	18.70	12.98	1567.74
32 Alcoholic Beverages(7)	2744.94	+1.2	2712.82	2721.36	2756.86	2823.08	4.70	1.87	14.22	31.28	1028.20
33 Food Producers(25)	2822.60	+0.4	2812.03	2831.70	2859.85	2568.05	3.86	1.80	18.04	5.51	1308.94
34 Household Goods(17)	2912.60	+1.9	2859.09	2865.41	2893.61	2519.04	3.46	2.26	16.00	1.06	1176.05
36 Health Care(16)	2212.68	-1.4	2244.75	2259.29	2267.27	1973.04	2.71	1.90	24.25	4.13	1369.65
37 Pharmaceuticals(18)	6498.16	+1.5	6403.39	6408.50	6438.49	5179.14	2.84	1.84	25.77	14.48	2250.48
38 Tobacco(2)	4573.78	+0.5	4549.84	4488.36	4489.62	4841.11	5.67	2.13	10.37	0.00	1177.83
40 SERVICES(273)	2693.60	+0.3	2685.30	2676.07	2683.43	2367.15	2.82	1.97	22.45	7.98	1432.74
41 Distributors(30)	2761.07	+0.8	2739.09	2741.24	2756.91	2652.48	3.09	1.99	20.35	0.86	1038.35
42 Leisure & Hotels(31)	3526.70	+0.4	3514.38	3492.77	3527.39	2940.32	2.56	1.66	29.34	20.40	1930.42
43 Media(44)	4381.53	+0.9	4341.46	4319.66	4349.74	3593.38	2.17	2.12	27.14	11.55	1609.23
44 Retailers, Food(15)	1965.62	+1.1	1944.32	1939.45	1956.58	1899.34	4.03	2.31	13.45	4.28	1282.58
45 Retailers, General(53)	2095.67	-1.2	2121.04	2111.97	2124.25	1965.71	3.11	2.02	19.87	7.10	1228.40
47 Breweries, Pubs & Rest.(22)	3414.98	+0.3	3404.62	3409.69	3418.74	3007.93	3.18	2.10	18.69	17.09	1684.58
48 Support Services(56)	3000.91	+0.3	2991.94	2995.55	3027.92	2132.74	1.71	2.45	29.78	1.89	1938.53
49 Transport(22)	2900.37	+1.1	2868.89	2850.59	2857.54	2393.70	3.32	1.26	29.87	6.35	1242.56
60 UTILITIES(31)	2735.35	+0.7	2716.15	2704.29	2729.30	2494.43	4.90	1.49	17.06	5.34	1243.13
62 Electricity(10)	2921.76	+1.1	2890.41	2868.88	2871.96	2778.41	5.80	2.20	9.79	22.06	1613.61
64 Gas Distribution(2)	1594.81	+1.2	1576.30	1589.76	1640.23	1591.45	7.65	‡	‡	0.00	872.64
66 Telecommunications(8)	2297.96	+0.4	2287.77	2274.65	2293.55	2068.22	3.84	1.56	21.98	0.38	1085.01
68 Water(11)	2529.21	+0.6	2513.08	2525.75	2536.41	2127.61	5.94	2.31	9.10	0.00	1482.81
69 NON-FINANCIALS(681)	2173.94	+0.8	2156.20	2153.24	2167.21	1972.24	3.59	1.86	18.67	6.16	1699.42
70 FINANCIALS(106)	3945.99	+1.3	3895.64	3920.23	3928.82	2960.14	3.57	2.37	14.74	29.27	1754.80
71 Banks, Retail(8)	5748.84	+1.7	5651.95	5724.84	5739.58	4197.26	3.48	2.66	13.50	63.60	1945.02
73 Insurance(18)	1775.36	+1.2	1754.47	1726.93	1726.90	1431.34	4.82	2.19	11.82	4.50	1379.35
74 Life Assurance(7)	4601.23	+0.3	4586.49	4574.10	4608.12	3586.59	3.50	2.13	16.78	0.00	1956.53
77 Other Financial(29)	3255.70	+0.8	3230.35	3248.05	3241.29	2542.00	3.00	2.03	20.58	9.28	1908.65
79 Property(44)	1906.58	+0.5	1897.28	1886.05	1898.70	1452.60	3.34	1.32	28.45	3.31	1207.20
80 INVESTMENT TRUSTS(127)	3342.27	+0.5	3326.12	3330.34	3354.51	3154.26	2.16	1.11	51.98	10.12	1187.62
89 FTSE All-Share(914)	2126.38	+0.9	2107.27	2107.86	2119.74	1864.59	3.54	1.95	18.07	7.98	1852.09
FTSE Fledgling	1337.73	+0.1	1336.69	1338.16	1338.41	1157.48	2.91	0.58	76.48	4.33	1426.02
FTSE Fledgling ex IT	1359.56	....	1358.94	1357.96	1359.89	1159.23	3.16	0.50	79.25	4.48	1453.70

Hourly movements

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FTSE 100	4322.1	4323.6	4335.2	4343.2	4342.6	4345.8	4356.8	4350.4	4354.2	4359.1	4321.8
FTSE 250	4654.5	4656.4	4653.8	4656.3	4660.7	4661.1	4663.1	4665.8	4666.4	4666.7	4653.4
FTSE 350	2138.4	2140.0	2144.4	2147.8	2148.0	2149.3	2153.7	2151.5	2153.0	2154.8	2139.2

Time of FTSE 100 Day's high: 2:25 PM Day's low: 8:33 AM. FTSE 100 1996/97 High: 4357.7 (19/02/97) Low: 3632.3 (24/12/96).

FTSE 350 Industry baskets

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	Close	Previous	Change
Bldg & Cnstrcn	1303.0	1303.2	1303.3	1303.5	1304.7	1304.8	1305.9	1306.0	1306.3	1306.5	1301.3	+5.2
Pharmaceuticls	6349.3	6364.8	6377.0	6384.8	6379.5	6390.1	6406.5	6384.0	6394.2	6413.5	6316.8	+96.7
Water	2509.9	2511.1	2511.8	2519.7	2524.6	2524.8	2524.2	2523.2	2521.9	2522.5	2506.1	+16.4
Banks, Retail	5744.9	5755.1	5782.0	5784.2	5792.0	5796.4	5818.4	5813.7	5822.3	5820.2	5724.1	+96.1

For further information on the FTSE Actuaries Share Indices please contact FTSE International on 0171 448 1810. The FTSE Actuaries Share Indices are calculated in accordance with a standard set of ground rules established by FTSE International in conjunction with the Faculty of Actuaries and the Institute of Actuaries. © FTSE International Limited 1997. All Rights reserved. "FT-SE" and "Footsie" are trade marks of the London Stock Exchange and The Financial Times and are used by FTSE International under licence. † Sector P/E ratios greater than 80 and net covers greater than 30 are not shown. ‡ Values are negative.

FTSE INTERNATIONAL

TRADING VOLUME

Major Stocks Yesterday

	Vol. 000s	Closing price	Day's change
3i†	1,800	519½	+8
ASDA Group†	7,300	111½	-¼
Abbey National†	167	760	+10½
Airtours	2,900	1003½	
Albert Fisher	929	42½	
Allied Domecq†	3,200	437½	+5
Anglian Water	467	649	-1
Argos†	704	697	-5½
Arjo Wiggins	770	184	-3
Assoc. Brit. Foods†	379	481	-8
Assoc. Brit. Ports	1,000	318½	
BAA†	3,400	540½	+5
BAT Inds.†	9,000	549½	+4
BBA	220	347	+3
BICC	216	279½	+1½
BOC†	2,500	1019	+27
BG†	14,000	173	-2½
BP†	7,300	687½	+10½
BPB	1,800	341	+4½
BSkyB†	2,800	620½	+8
BT†	14,100	432½	+5
BTR†	11,600	255½	+13
Bank of Scotland†	2,600	349½	+8½
Barclays†	29,500	1110	+16
Bass†	1,400	851½	+8½
Blue Circle†	1,500	410½	+8
Booker	244	344½	+2
Boots†	1,900	677½	-2½
Britannic	566	868	-2
Brit. Aerospace†	2,600	1322	+27½
British Airways†	2,800	653	+12
British Biotech	1,700	261	-4
British Energy	1,600	140½	-1
British Land	695	536	+4½
British Steel†	1,800	153	+1½
Burmah Castrol†	600	1027½	-1½
Burton†	4,900	159½	-1¼
Cable & Wire†	4,600	494	-9½
Cadbury Schweppes†	3,300	510	+8½
Caradon	2,500	272	-1
Carlton Comms.†	2,600	547½	+6
Centrica†	35,200	64	+¼
Chubb	3,300	429½	
Coats Viyella	721	130½	
Comm. Union†	3,600	721	
Compass	662	742½	+10
Cookson	1,600	231	-1
Courtaulds	911	369½	+6½
Dalgety	76	329	-½
De La Rue	532	615½	-4½
Dixons†	686	536	+5
EMAP	698	739	-10½
EMI†	1,200	1193	+31½
Electrocomps	1,400	410	+10
Energy Group†	2,700	532½	+8
Enterprise Oil†	2,100	611	-8
FKI	136	185½	
Foreign & Col. I.T.	1,200	159	+1½
Gen. Accident†	1,300	847½	+10½
General Elect.†	4,700	384½	+7
Glaxo Wellcome†	4,200	1058	+12
Glynwed	1,200	302	+6
Granada†	2,000	935½	+9
Grand Met.†	5,900	460	+6½
GUS†	1,400	661½	+1½
Greenalls	1,000	560½	+5½
GRE†	2,600	264	+1½
GKN†	1,100	980	+14
Guinness†	5,800	462	+5
HSBC (75p shs)†	4,000	1572½	+20½
Hammerson	47	444	+3
Hanson†	8,100	276½	+1½
Harrisons Crosfield	280	131½	+½
Hays†	2,900	524½	-12½
Hillsdown	1,100	164	-1½
Hyder	94	680	
IMI	912	354	+1½
ICI†	3,100	749½	+8½
Imperial Tobacco†	3,600	419	-4½
Inchcape	1,900	270½	+5
Johnson Matthey	107	539½	+1
Kingfisher†	3,600	681½	-9
Kwik Save	424	301	-6½
Ladbroke†	2,500	227	-2
Land Securities†	981	795	+6½
Laporte	151	654½	+6½
Legal & General†	1,400	398	+5½
Lloyds TSB†	10,700	516½	+14½
LASMO†	2,200	244	+4½
Lonrho	3,000	147½	+2
LucasVarity†	6,600	209½	+3½
MEPC	627	469	+3½
MFI	17,900	156½	-40½
Marks & Spencer†	7,400	488½	-9
Mercury Asset Man†	865	1366½	+24½
Morrison (Wm.)	986	146	-1
NFC	455	171½	
NatWest Bank†	5,400	737½	+6
National Grid†	6,500	210½	+4
National Power†	2,100	498	+6
Next†	399	599½	+7
Northern Foods	896	216½	+1½
Orange†	3,100	210½	+1½
Pearson†	1,900	776	-8½
P & O†	1,300	697	+8½
Pilkington	4,300	144	+2
PowerGen†	667	623½	+½
Premier Farnell	1,500	462½	+7
Provident Financial	327	561½	-1
Prudential†	2,500	569½	-½
REXAM	689	329	
RMC†	735	965	+28
RTZ†	2,400	941	+3
Racal	408	280½	+1½
Railtrack†	1,500	471½	+8
Rank Group†	4,100	429½	+7½
Reckitt & Colman†	2,800	815	+23½
Redland	3,500	358	+3½
Reed Intl.†	1,300	1142½	+5
Rentokil Initial†	3,600	452	+8
Reuters†	1,900	659½	+8
Rolls Royce†	8,300	236	+1½
Royal & Sun Allce†	5,600	507	+12½
Royal Bk Scotland†	2,400	599½	+5
Safeway†	4,000	373	+8
Sainsbury†	3,900	316½	+6½
Schroders†	336	1687½	+8
Scottish & New.†	2,400	671	-4½
Scot. Hydro-Elect.	782	388	+8
Scottish Power†	1,100	363½	+6½
Sears	686	81½	-2
Securicor	470	314	+1½
Sedgwick	1,300	128	+1½
Severn Trent†	475	721	+6½
Shell Transport†	6,900	1059½	+19½
Siebe†	898	876	+6½
Slough Ests	599	285½	+½
Smith (W.H.)	1,100	464	-2
Smith & Nephew†	9,900	184¼	-6¾
SmKl Beecham†	2,800	921	+17
Smiths Inds.†	2,200	793½	+8½
Southern Elect	932	439½	+8
South West Water	178	597½	-1½
Stagecoach	1,200	722½	+17½
Standard Chartd.†	2,100	887½	+21½
Storehouse	1,600	271½	-1½
T&N	1,000	159½	-2
TI Group†	873	595	+4
Tarmac	1,800	104	+2
Tate & Lyle†	809	436½	
Taylor Woodrow	50	182	
TeleWest Comms	2,100	119½	-1
Tesco†	4,100	342½	+2
Thames Water†	711	697½	+6½
Thorn	2,600	180½	-1
Tomkins†	2,100	266	+1
Unigate	237	455½	+½
Unilever†	1,900	1564½	+17
United Biscuits	1,800	241½	-½
Utd. News & Media†	1,200	725	+18
United Utilities†	3,300	662½	+1½
Vodafone†	5,700	298	+2
WPP	2,300	258	
Wessex Water	1,500	365	+4
Whitbread†	744	787	-3
Williams Hldgs.	2,700	326	+1
Willis Corroon	15,300	152½	-½
Wimpey	237	139½	-½
Wolseley†	1,100	488	+15½
Yorkshire Elect	193	895½	+1½
Yorkshire Water	468	388½	+1
Zeneca†	1,500	1882½	+46

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LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

OTHER INVESTMENT TRUSTS

INVESTMENT COMPANIES

LEISURE & HOTELS

LIFE ASSURANCE

MEDIA

MEDIA - Cont.

OIL EXPLORATION & PRODUCTION

OIL, INTEGRATED

OTHER FINANCIAL

PAPER, PACKAGING & PRINTING

PHARMACEUTICALS

PROPERTY

PROPERTY - Cont.

RETAILERS, FOOD

RETAILERS, GENERAL

RETAILERS, GENERAL - Cont.

SUPPORT SERVICES

SUPPORT SERVICES - Cont.

TELECOMMUNICATIONS

TEXTILES & APPAREL

TEXTILES & APPAREL - Cont.

TOBACCO

TRANSPORT

WATER

AIM

AIM - Cont.

AMERICANS

CANADIANS

SOUTH AFRICANS

	Notes	Price	+ or –	52 week high	52 week low	Mkt Cap£m	Yld Gr's	P/E
Anglo Am Ind	◊	£24½	—	*£31⅞	£20¼	1,985	3.1	Φ
Barlow	♣	£8½xd	+⅛	[illegible]	[illegible]	1,335	2.3	13.5
Gold Flds Prop R	†	138¼	+4	171½	120	14.2	6.5	10.3
JK Props		85	—	92	80	2.81	13.7	–
SASOL	♥	645	—	718	523	3,777	1.7	–
SA Brews		£18⅝xd	+⅛	£24¾	£13¼	5,486	1.9	Φ
Standard Bank		£25¼	+⅞	[illegible]	£21	3,025	1.5	22.2
Tiger Oats		790	—	1160	770	1,188	2.3	15.4
Tongaat-Hulett		785¼	+5	1125	676¼	724.4	2.4	Φ

GUIDE TO LONDON SHARE SERVICE

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Company classifications are based on those used for the FTSE Actuaries Share Indices.

Closing mid-prices are shown in pence unless otherwise stated. Highs and lows are based on intra-day mid-prices over a rolling 52 week period.

Where stocks are denominated in currencies other than sterling, this is indicated after the name. Prices shown for some of these foreign securities are converted into sterling from latest available local Stock Exchange prices.

Symbols referring to dividend status appear in the notes column daily as a guide to yields and P/E ratios. Dividends and Dividend covers are published on Monday.

Market capitalisation shown is calculated separately for each line of stock quoted.

Earnings used in calculations are based on IIMR 'Headline Earnings' formula.

Price/earnings ratios are based on latest annual reports and accounts and, where possible, are updated on interim figures.

Yields are based on mid-prices, are gross, adjusted for a dividend tax credit of 20 per cent and allow for value of declared distribution and rights.

Estimated Net Asset Values (NAVs) are shown for Investment Trusts, in pence per share, along with the percentage discounts (Dis) or premiums (Pm –) to the current closing share price. The NAV basis assumes prior charges at par value, convertibles converted and warrants exercised if dilution occurs.

- * Highs and lows marked thus have been adjusted to allow for capital changes
- † Interim since increased or resumed
- ‡ Interim since reduced, passed or deferred
- Φ Figures or report awaited
- ♥ Rule 2.1(a)(v) Overseas incorporated companies listed on an approved exchange.
- ♣ Free annual/interim report available, see details below.
- ‡‡ Rule 4.2(a) Irish incorporated non-listed companies.
- # Price at time of suspension
- ¶ Indicated dividend yield after pending scrip and/or rights issue
- ♦ Merger bid or reorganisation in progress
- § Forecast dividend yield; p/e based on earnings updated by latest interim statement.
- ♠ Unregulated collective investment scheme.

a Yield based on annualised dividend. b Figures based on prospectus or other official estimates. g Assumed dividend yield after rights issue. h Assumed dividend yield after scrip issue. n Rights issue pending. q Earnings based on preliminary figures. s Dividend yield excludes a special payment. t Indicated dividend yield, p/e ratio based on latest annual earnings. u Forecast, or estimated annualised dividend yield, p/e based on previous year's earnings. z Dividend yield includes a special payment.

F Yield based on prospectus or other official estimates for 1996-97. G Assumed yield after pending scrip and/or rights issue. H Yield based on prospectus or other official estimates for 1997. K Yield based on prospectus or other official estimates for 1996. L Estimated annualised yield, p/e based on latest annual earnings. M Yield based on prospectus or other official estimates for 1995-96. N Dividend is paid in whole or part as a

FID (Foreign Income Dividend) R Forecast annualised yield, p/e based on prospectus or other official estimates. W Pro forma figures. Z Dividend yield to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xi ex capital distribution.

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NEW YORK STOCK EXCHANGE PRICES

4 pm close March 4

1996/97 High	Low	Stock	Div	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chng Prev. Close
32	24¼	AAR x	0.48	1.9	21	534	25¾	25½	25⅝	+⅛
40⅞	33	AMP x	1.04	2.7	28	3032	38⅞	38⅜	38½	-⅜
97½	68	AMR			6	11687	82½	80	80¼	-½
50½	33¼	ASA	1.20	3.3	23	492	36¼	35⅞	36⅛	-7
60⅛	38⅛	AbbtL	1.08	1.9	23	6640	57⅛	55⅞	55⅞	-1⅛
17½	12¾	Abitibi Pr x	0.40	2.5	8	629	16⅜	16⅛	16⅛	-⅛
20¼	13½	ABM Ind	0.40	2.2	17	44	18⅝	18½	18½	-¼
22½	13⅞	Acptncain			10	202	21⅞	21½	21⅝	+⅜
65¾	37¾	ACE Ltd	0.72	1.1	10	553	65	64⅝	64⅝	-⅜
10⅝	9⅛	ACM Gvt In	0.90	8.4	11	198	u10¾	10⅝	10¾	+⅛
7⅞	6⅝	ACM GvOpp	0.83	6.5		400	7½	7⅜	7⅜	
8⅞	8⅜	ACM Man	0.90	9.2		111	9¾	9⅝	9¾	
13⅞	6⅛	Acme Elect				54	7	6¾	6¾	-⅛
21⅝	13⅞	Acme Mills			72	48	16⅝	16½	16⅝	
33¾	27⅛	Acordia x	0.80	2.5	15	63	32	31¾	32	+¼
29¾	12	Acuson				848	27⅞	27⅜	27⅜	+½
21⅛	17⅞	Adams Expr	0.55	2.6	1	598	21	20⅞	20⅞	
38⅞	10¼	AdvMic				28886	u38¾	35⅞	38½	+2½
16	8½	Advest Grp			10	63	13¾	13½	13¾	+¼
20⅜	9⅛	Advo Inc			29	133	13	12⅝	12⅞	+⅛
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- R -

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Highs & Lows shown on a 52 week basis

WORLD STOCK MARKETS

EUROPE

PACIFIC

AFRICA

NORTH AMERICA

INDICES

US INDICES

	NYSE Comp.	Amex Comp.	NASDAQ Cmp
Mar 3	417.34	594.82	1311.18
Feb 28	415.51	594.24	1309.00
Feb 27	417.39	595.17	1312.66
1996/97 High	427.07 (18/2/97)	617.61 (22/5/96)	1388.66 (22/1/97)
1996/97 Low	321.41 (10/1/96)	524.20 (16/7/96)	985.57 (15/1/96)
Since compilation High	427.07 (13/2/97)	617.61 (22/5/96)	1388.06 (22/1/97)
Since compilation Low	4.64 (25/4/42)	524.20 (16/7/96)	54.87 (3/10/74)

■ RATIOS

	Feb 28	Feb 21	Feb 14	Year ago
Dow Jones Ind. Div. Yield	1.96	1.94	1.92	2.15
	Feb 26	Feb 19	Feb 12	Year ago
S & P Ind. Div. yield	1.73	1.72	1.73	1.89
S & P Ind. P/E ratio	22.69	22.84	24.83	20.83

■ NEW YORK ACTIVE STOCKS

Monday	Stocks traded	Close price	Change on day
AT & T	13,274,400	36⅞	-3
Westinghs	4,859,900	17¾	+⅜
McDonalds	4,323,800	43½	+¼
WalMart	4,284,600	27	+⅛
Micron Tc	3,920,500	38⅛	+1⅛
Chase Manh	3,327,500	102	+1⅞
IBM	3,297,000	145⅝	+1⅜
Seagate Tc	3,243,400	45⅝	-1½
Olympic Fn	3,047,300	9	-2
Pepsico	2,890,300	33⅝	+½

■ TRADING ACTIVITY

● Volume (million)

	Mar 3	Feb 28	Feb 27
New York SE	432.631	512.042	468.446
Amex	16.851	22.727	19.999
NASDAQ	543.439	704.408	685.543
NYSE			
Issues Traded	3,322	3,328	3,303
Rises	1,295	1,033	898
Falls	1,216	1,461	1,603
Unchanged	811	834	804
New Highs	78	61	77
New Lows	27	32	37

■ S&P 500

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Mar	795.00	797.80	+2.55	797.80	795.00	74,871	172,768
Jun	–	802.80	–	–	784.70	6,727	28,773

■ Nikkei 225

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Mar	18540.0	18580.0	+160.0	18680.0	18480.0	34,531	182,242
Jun	18540.0	18530.0	+110.0	18630.0	18440.0	27,432	121,752

■ TOKYO - MOST ACTIVE STOCKS: Tuesday, March 4, 1997

	Stocks Traded	Closing Prices	Change on day		Stocks Traded	Closing Prices	Change on day
Fuji Heavy Inds	6.1m	589	+9	Toshiba Corp	4.2m	685	+4
Mitsubishi Hvy	4.4m	857	-7	Tobishima	4.0m	216	+27
Isuzu Motors	4.4m	560	+26	Sakura Bank	3.7m	756	+13
Tokio M&F Ins	4.3m	1210	-10	Hitachi	3.6m	1060	+10
Nippon Steel Cp	4.3m	326	+6	Fuji Bank	3.6m	1400	+20

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US shares continue to advance

AMERICAS

US stocks trended upwards again in quiet morning trade as dealers took a respite from the last week's correction, *writes John Authers in New York.*

Airlines and technology stocks led the rise, although continuing nerves about the employment report due on Friday and its possible implications for monetary policy acted as a dampener.

By 1 pm, the Dow Jones Industrial Average was up 9.23 at 6,928.15. Westinghouse, the media conglomerate, led the Dow with a gain of $1⅛ to $19⅝, made on the back of a buy recommendation from Goldman Sachs.

Continued falls in AT & T and General Motors, which had announced disappointing sales figures, kept the Dow from gaining further ground, however. The broader S & P 500 index was up 2.34 at 797.65.

A strong recovery in the largest technology stocks helped the Nasdaq composite index outperform the rest of the market and it gained 11.79 to 1,322.97. Intel, the semiconductor manufacturer, was up $2¼ at $148¼, while Cisco Systems, which builds computer networks, gained $1⅛ at $55¾.

America Online, the internet service provider, rallied sharply, gaining $3½ to $43⅝ on the news that it was opening its "chat" services to advertising. AOL's share price has seen heavy volatility in recent months, as fast growth in subscribers was followed by legal actions alleging that its systems were overloaded.

Airline stocks fared well after United Airlines, the largest US domestic carrier, announced that its first-quarter profits would be ahead of the most optimistic Wall Street estimates. The rest of the sector gained in sympathy. United rose $3⅞ to $63⅞, Delta Airlines rose $1⅝ to $83⅞. USAir advanced by $⅝ to $20⅞, and AMR gained $⅝ at $81⅞.

Confirmation after Monday's market close that Conrail was to be bought by CSX and much of its assets distributed to Norfolk Southern, which had been a rival bidder, fuelled a further increase in the Dow Jones Transportation index, which gained 27.74 to 2,400.85. Conrail gained $1¼ by midday, while CSX was up $⅞ at $49¾.

TORONTO mirrored the steady morning session on Wall Street, moving modestly ahead in spite of a bad start for golds. At noon, the TSE-300 composite index was up 9.98 at 6,155.96.

Golds tumbled across the board at the sight of a bullion price dipping back below $360. Barrick Gold came off 35 cents to C$37.75 and Placer Dome retreated 70 cents to C$27.70.

Royal Bank of Canada added 50 cents to C$55.70 and Toronto-Dominion Bank put on 10 cents to C$38.35. Among second-liners, Scott Paper fell C$1.75 to C$21.80 following news of a $C23-a-share agreed bid.

Sao Paulo moves up

Sentiment turned bullish on a number of Latin American markets. **SAO PAULO** moved ahead strongly, helped by the steady start on Wall Street and a certain amount of short-covering.

Dealers said volume stayed low, but that the mood "had clearly brightened". At midsession, the Bovespa index was up 144, or 1.6 per cent, at 9,123.

BUENOS AIRES also rallied. Firmly on the downside for five straight sessions up to Monday, the Merval index shot ahead in early trading to reach the midsession with a gain of 11.45, or 1.6 per cent, at 727.91.

MEXICO CITY edged ahead in thin trade. At midsession, the IPC index was up 20.81 at 3,816.73.

CARACAS moved lower following disappointing inflation figures with consumer prices for February rising 0.8 per cent after 0.5 per cent in January. The midsession calculation saw the IBC index off 9.87 at 6,606.34.

S Africa sinks on losses in gold shares and profit-taking

A setback for golds and post-results profit-taking for index heavyweight De Beers pushed the Johannesburg market lower. The overall index closed off 21.2 at 7,132.6.

Gold shares took a severe knock, reacting badly to a fall in the bullion price which slipped back below $360 during the Johannesburg day.

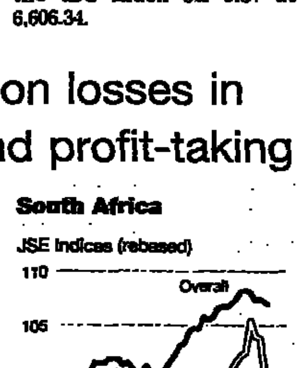
The golds index retreated 70.00, or 4.5 per cent, to 1,429.9.

Both Freegold and Kloof fell almost 7 per cent, the former ending off R2.70 at R36.30 and Kloof losing R2.75 to R36.30.

Dries gave up R3.00, or almost 6 per cent, to R47.50.

The broad market mostly moved ahead. The industrials index gained 22.7 to 8,284.

Dealers said the De Beers results were well received and that the profit-taking was mostly technical.



Daimler drives Frankfurt to all-time high

EUROPE

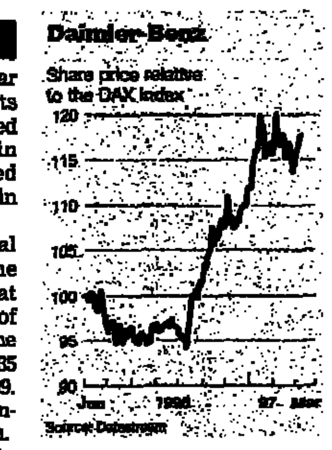
A strong day for the dollar and good news on profits from Daimler-Benz sparked an upsurge of buying in **FRANKFURT** and hoisted shares to an all-time high in heavy volume.

Dealers said that local institutions were in the thick of the action and that there was no shortage of futures-driven trade. At the close, the Dax was up 86.35 at an Ibis-indicated 3,345.09. Turnover surged from Monday's DM8.5bn to DM15.8bn.

Daimler set the upturn in motion, dropping a clear hint that profits for 1996 could top DM2bn. With earlier estimates by analysts ranging up to DM1.8bn, this sparked instant earnings upgrades and the stock, which has an 8 per cent weighting in the Dax, jumped almost 4 per cent.

The closing level was an all-time best of DM128.20, up DM4.50 and more than 60 per cent above the levels of last July. At 8.8m traded, volume was the best for six months.

Volkswagen and BMW, both of which put out solid sales reports, gained DM20.75 to DM835.50 and DM27.50 to DM1,162.5 respectively. The hottest export play looked to be Linde which surged DM54.00, or 5 per cent, to DM1,149.



SAP, the software leader which made a poor start to the year, jumped DM8.80 to DM266.80 after Deutsche Morgan Grenfell set a target price of DM280 for the shares.

PARIS also probed new high ground, helped by a renewed burst for Thomson-CSF, a strong retail sector, and dollar-led gains for oil stocks. The CAC 40 added 51.43 to 2,651.69.

Danone, the subject of an endless stream of bid talk recently, jumped FFr35.00, or 4 per cent, to FFr915. Pinault-Printemps rose FFr29.00 to FFr2,423 and Promodes, which announces results on Friday, gained FFr65.00 to FFr1,748.

Renault moved lower at the opening, but spun round in later trading, closing FFr1.90 better at FFr141.9 on additional restructuring news. Peugeot rose FFr21.00 to FFr644 with some institutions said to be switching out of Renault.

Total put on FFr13.50 to FFr465 and Elf Aquitaine FFr15.00, or nearly 3 per cent, to FFr558 helped by the dollar and the stronger crude price.

Talk that the bidding line-up for the government's 58 per cent stake in Thomson-CSF could be made known on Friday sent CSF spinning higher. The stock rose FFr9.50, or 5.2 per cent, to FFr198.

AMSTERDAM followed leading bourses to an all-time high, lifting the AEX by 17.14 to 753.40. Internationals were buoyed by the dollar. Philips rose almost 5 per cent, adding Fl 4.20 to Fl 89.90 in 4.8m shares traded.

Among second-liners, Hunter Douglas jumped Fl 7.00 to Fl 153 on a positive earnings statement and a share split.

ZURICH made the most of the firmer dollar to move higher after three days on the downtrack, although late profit-taking pulled prices off their best levels. The SMI index finished 53.6, or 1.2 per cent, higher at 4,513.7.

Among the banks, CS Group rose 75 cents to SFr158.50 ahead of today's definitive 1996 results, while Zurich Insurance led its sector higher with a gain of SFr6 to SFr443.50.

Among the pharmaceuticals, Novartis gained SFr29 to SFr1,701 and Roche added SFr70 to SFr12,260.

Share rights of Ciba Speciality Chemicals added SFr5.40 to SFr97.40. The co-lead arrangers said that solid demand could mean that the shares may be priced above the indicated range of SFr72-SFr86 a share for the global offering.

Among other blue chips, Nestlé rose SFr25 to SFr1,626 while ABB advanced SFr48 to SFr1,729.

BRUSSELS saw Neuhaus, the chocolate maker, dash up to a sharp premium as the shares made their debut on the exchange. Neuhaus closed at BFr2,170 compared with the initial public offering priced at BFr1,750 in hefty volume of 83,667 shares. The broad market picked up to close at a record high, helped by the firmer dollar and bonds. The Bel-20 index finished 15.64 higher at 2,158.07.

MILAN finished 1.9 per cent better, but off its highs, still sensitive to any suggestion of a delay in the introduction of a single currency. The Comit index added 14.35 to 755.48.

Telecom stocks continued their technical rebound on news that the share exchange rate for the merger of Stet and Telecom Italia would be set soon. Telecom Italia jumped L175 to L4,278 and Stet was L87 higher at L7,489.

HELSINKI built a 1.9 per cent advance on strong gains in forestry shares which were helped by the firmer dollar and UPM-Kymmene's 1996 earnings report. The Hex index closed up 52.79 at 2,898.90 in turnover of FM440.4m. Forestry shares closed an average of 3 per cent higher, benefiting from the stronger dollar and led by a FM4.10 gain by UPM-Kymmene to FM108.90.

Benefon, the mobile telephones manufacturer added to Monday's FM5.90 rise with another of FM13.80 to FM112 in further response to news that the company had received type approval for its first GSM handset.

ATHENS settled marginally higher after the 17 per cent plunge of the previous three sessions as some institutional investors and banks intervened to support their shares, helping drive the benchmark index higher.

The general share index ended 6.48 higher at 1,213.02 led up by a 3.1 per cent rise in industrial stocks and a 7.1 per cent surge in leasing shares.

ISTANBUL took a dive for a second straight day on worries about the political outlook and higher than expected February inflation. The IMKB-100 index picked up from a low of 1,325, but still closed 79, or 5.2 per cent, down at 1,443.

TEL AVIV picked up 2.8 per cent in what was seen as a technical rebound after last week's losses. The Mishtanim index picked up 6.96 to 253.77.

Written and edited by Michael Morgan and Jeffrey Brown

FTSE Actuaries Share Indices

Mar 4							THE EUROPEAN SERIES	
Hourly changes	Open	10.30	11.00	12.00	13.00	14.00	15.00	Close
FTSE Eurotrack 100	2144.07	2145.67	2147.49	2140.65	2151.89	2153.15	2152.88	2154.26
FTSE Eurotrack 200	2184.88	2187.80	2189.70	2191.98	2192.78	2196.33	2194.50	2198.85

	Mar 4	Mar 3	Feb 28	Feb 27	Feb 26
FTSE Eurotrack 100	2048.61	2125.96	2140.38	2149.57	2152.00
FTSE Eurotrack 200	2196.96	2168.74	2180.91	2187.43	2191.03

Base value 1000 (26/10/90); Highday: 100 - 2154.58; 200 - 2197.73 Low/day: 100 - 2143.87 200 - 2184.88. † Partial.

Tokyo rebounds as Bangkok drops further 2.6%

ASIA PACIFIC

Tokyo bounced back after the falls of the previous two sessions, apparently cheered by Wall Street's overnight rise and by a slight weakening of the yen against the dollar, *writes Bethan Hutton.*

The strongest gains were in the morning session, however, and the rally appeared to be running out of steam by the afternoon.

The Nikkei 225 average closed 135.65 higher at 18,564.78, after moving between 18,497.11 and 18,688.86. The Topix index of all first-section stocks gained 8.36 to 1,387.94 and the capital-weighted Nikkei 300 index added 1.91 to 265.77.

Rising shares outnumbered those declining by 599 to 447, while 208 were unchanged. Volume was still comparatively low, at about 344m shares, up from 300m on Monday.

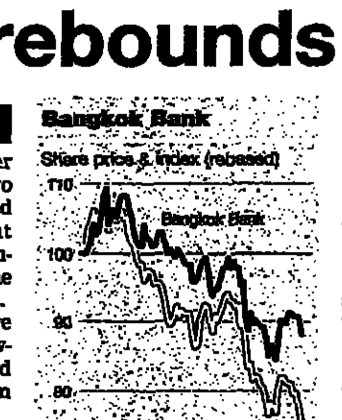
In London, the ISE/Nikkei 50 index rose 8.38 to 1,439.55.

Mr Paul Migliorato at Jardine Fleming Securities in Tokyo said that demand for securities companies took the sector up 3.1 per cent on news that the ministry of finance planned to allow brokerages to expand into some new areas of financial services.

Nomura Securities rose Y40 to Y1,630, Daiwa Securities Y52 to Y975, Nikko Securities Y31 to Y723, and Yamaichi Securities Y13 to Y426.

Fuji Heavy Industries was actively bought by individual investors encouraged by progress in the company's US operations. Analysts said private investors seemed to have been returning to the market in recent weeks. One indicator was the balance of margin trading, which rose last week for the second straight week after a long period of decline.

Fuji Heavy gained Y9 to Y569, after hitting a 12-month high of Y594 during the day.



The yen's depreciation to more than Y121 to the dollar helped exporters. Sony climbed Y200 to Y8,900, NEC Y30 to Y1,410, and TDK Y80 to Y8,250.

Carmakers mostly did well, after Monday's release of vehicle sales figures for February showed an 11 per cent increase. This was partly due to consumers bringing purchases forward before sales tax is increased from 3 to 5 per cent in April.

Toyota Motor gained Y60 to Y3,180 and Honda Motor Y120 to Y3,820, but Nissan Motor slipped Y1 to Y718.

In Osaka, the OSE index climbed 67.21 to 19,435.64 in volume of 181.2m shares.

BANGKOK, hit by worries about the solvency of some financial companies, had another bad day, but closed off the bottom as the shake-out sparked bargain-hunting.

The SET index ended 18.50, or 2.6 per cent, lower at 688.75, for a two-day decline of 5.5 per cent. During early morning trading, the index had been more than 25 points lower.

Trading in banks and finance companies was suspended on Monday ahead of a statement from the central bank which listed 10 companies in need of additional capital.

With trading resumed yesterday, Bangkok Bank was the most active share, slipping Bt5 to Bt171.

TAIPEI recovered, with the weighted index gaining 76.12 to 7,956.57 following Monday's 103-point shake-out. Turnover remained hectic at T$109bn. Financials stayed under a cloud, but there was aggressive buying of semiconductor shares.

MANILA rallied in late trading to close 17.59 lower on the main index at 3,302.82. At one stage, the index was trailing by 51 points. "It looks as if investors are preparing for the Equitable Bank flotation," said one broker.

Blue chips were hardest hit. San Miguel fell 4 pesos to 92 pesos.

The Equitable initial public offering, set to raise around $370m, starts today and runs until March 19.

SYDNEY closed higher with futures-linked trading in BHP driving sentiment. The All Ordinaries index added 10.9 to 2,432.1. BHP advanced 34 cents to A$17.12 in 3.46m shares traded, to mirror a steep rise for the March index contract. CRA rose 15 cents to A$18.95.

HONG KONG was lower as domestic and foreign investors trimmed overweight positions in the banks and switched to the property sector.

The Hang Seng index closed 57.20 lower at 13,450.08 after a morning low of 13,405.20 in heavy turnover of HK$10.3bn.

Brokers said the market was selling HSBC on the news of a slightly better than expected rise in net earnings. HSBC lost HK$2.50 to HK$186.50, but its subsidiary, Hang Seng Bank, tumbled HK$4.30 to HK$84.75 on much higher than expected bad debt provisions.

SINGAPORE was broadly weaker, although bank shares recovered from Monday's sell-off, which was prompted by fears of exposure in Thailand's bank crisis. The Straits Times Industrial index ended 6.90 down at 2,189.44 in volume of 310.9m shares.

KUALA LUMPUR was stunned by news of the death in a helicopter crash of Yahaya Ahmad, chairman and chief executive of Proton, the national carmaker. Shares of nine companies linked to him were suspended at their own request. The composite index fell 13.21, or 1.1 per cent, to 1,247.23.

BOMBAY made a lethargic start to the session before turning higher again on the view that last Friday's market-friendly budget would help sustain political stability. The BSE-30 index picked up 73.56, or 1.9 per cent, to 3,944.61.

KARACHI sank 1.6 per cent on political and economic uncertainty and as small investors sold holdings on settlement day.

The KSE-100 index fell 25.80 to 1,609.61.

FT/S&P ACTUARIES WORLD INDICES

The FT/S&P Actuaries World Indices are owned by FTSE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FTSE International and Standard & Poor's in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

NATIONAL AND REGIONAL MARKETS Figures in parentheses show number of lines of stock	MONDAY MARCH 3 1997 US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div. Yield	FRIDAY FEBRUARY 28 1997 US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	DOLLAR INDEX 52 week High	52 week Low	Year ago (approx)
Australia (76)	218.57	0.0	200.10	166.93	192.42	185.11	-1.2	4.10	218.66	198.69	166.82	191.91	187.38	224.61	188.44	202.57
Austria (24)	186.23	0.7	170.49	142.23	163.95	163.90	1.0	1.78	184.82	168.03	141.07	162.30	162.23	195.04	174.70	187.12
Belgium (26)	235.44	0.0	215.54	179.82	207.27	202.87	0.3	3.22	235.38	213.88	179.57	206.56	202.15	236.54	203.64	212.82
Brazil (28)	235.15	1.0	215.28	179.60	207.02	454.96	1.0	1.34	232.74	211.49	177.56	204.27	450.26	242.07	147.48	158.57
Canada (114)	197.41	-0.1	180.72	150.77	173.79	195.49	0.0	1.89	197.52	179.48	150.69	173.36	195.50	209.24	183.61	154.67
Denmark (32)	362.73	0.4	332.13	277.08	319.39	318.79	0.7	1.38	361.44	328.43	275.74	317.23	316.60	378.09	291.30	303.41
Finland (26)	253.39	-2.2	231.98	193.53	223.08	269.52	-1.5	1.97	259.02	235.36	197.60	227.33	273.69	263.12	174.47	184.32
France (91)	218.38	-0.7	199.93	166.79	192.26	195.92	-0.3	2.67	219.83	199.76	167.71	192.94	196.46	222.08	183.67	190.94
Germany (59)	195.67	0.0	179.13	149.44	172.26	172.26	0.3	1.50	195.72	177.84	149.31	171.78	171.78	196.27	164.47	173.79
Hong Kong (59)	494.20	1.0	452.43	377.44	435.08	491.37	1.0	3.16	489.47	444.77	373.42	429.59	486.84	514.49	402.53	437.75
Indonesia (27)	249.70	-0.7	228.60	190.71	219.83	367.03	-0.6	1.45	251.49	228.52	191.86	220.72	369.89	-	-	-
Ireland (16)	335.31	-0.9	306.97	256.09	295.20	300.49	-0.2	3.13	338.53	307.61	258.28	297.12	301.23	343.35	255.16	280.24
Italy (58)	85.33	1.1	78.12	65.17	75.12	107.99	1.3	1.98	84.44	76.73	64.42	74.11	106.58	98.32	70.61	78.58
Japan (480)	116.38	-0.9	106.52	88.87	102.44	88.87	-0.3	0.86	117.37	106.65	89.54	103.01	89.54	164.88	108.16	149.59
Malaysia (107)	649.38	-0.8	594.51	495.97	571.70	620.12	-1.0	1.02	654.83	595.03	499.57	574.72	626.21	660.85	512.47	529.77
Mexico (27)	1343.66	-1.8	1230.11	1026.22	1182.93	11777.70	-1.2	0.94	1367.95	1243.02	1043.60	1200.61	11920.31	1445.68	1046.55	1108.65
Netherland (19)	342.06	-0.5	313.15	261.25	301.14	297.33	-0.2	2.58	343.81	312.41	262.29	301.75	297.96	354.05	274.35	278.83
New Zealand (14)	87.44	1.6	80.05	66.78	76.98	68.27	0.3	4.27	86.05	78.19	65.65	75.52	66.05	95.60	73.94	81.39
Norway (41)	298.05	-2.2	272.87	227.64	262.40	276.58	-0.7	2.18	304.83	276.81	232.40	267.36	278.62	321.23	235.31	238.83
Philippines (22)	206.25	-0.1	188.82	157.52	181.59	270.58	-0.1	0.64	206.45	187.59	157.50	181.19	270.91	-	-	-
Singapore (43)	421.96	-0.6	386.30	322.27	371.49	276.99	-0.8	1.00	424.68	385.90	323.99	372.73	279.08	449.15	371.28	446.30
South Africa (44)	362.22	0.4	331.61	276.64	318.89	354.09	0.2	2.36	360.80	327.85	275.26	316.67	353.41	390.34	301.49	388.84
Spain (35)	206.12	-0.8	188.70	157.42	181.46	224.33	-0.6	2.80	207.83	188.85	158.55	182.41	225.70	228.18	161.66	174.82
Sweden (48)	425.96	-0.8	389.96	325.33	375.00	478.20	0.3	2.15	429.45	390.23	327.62	376.91	476.69	437.08	325.59	338.45
Switzerland (35)	245.34	-0.5	224.60	187.38	215.99	224.45	-0.5	1.32	246.68	224.15	188.18	216.50	225.57	254.34	229.36	232.27
Thailand (45)	80.34	-2.2	73.55	61.36	70.73	80.77	-2.2	4.20	82.18	74.68	62.70	72.14	82.60	187.79	75.46	179.35
United Kingdom (212)	279.57	-0.8	255.95	213.52	246.13	255.95	-0.1	3.79	281.80	256.06	214.98	247.33	256.06	284.47	224.39	231.70
USA (654)	323.06	0.6	295.76	246.74	284.41	323.06	0.6	1.85	321.26	291.92	245.09	281.96	321.26	331.54	254.79	263.24
Americas (823)	295.71	0.5	270.72	225.85	260.33	248.87	0.5	1.84	294.20	267.33	224.44	258.21	247.59	303.45	233.09	240.10
Europe (725)	241.17	-0.5	220.79	184.19	212.32	223.18	0.0	2.72	242.46	220.31	184.97	212.80	223.23	245.79	201.66	206.42
Nordic (150)	368.52	-1.0	337.38	281.46	324.44	357.03	0.0	2.01	372.16	338.17	283.92	326.63	357.06	379.62	282.52	292.22
Pacific Basin (873)	137.68	-0.6	126.05	105.15	121.21	104.49	-0.6	1.39	138.52	125.87	105.67	121.57	105.15	177.01	131.50	163.36
Euro-Pacific (1598)	180.79	-0.6	165.51	138.08	159.16	149.32	-0.3	2.13	181.81	165.21	138.70	159.57	149.75	191.51	176.40	181.20
North America (768)	315.44	0.5	288.78	240.91	277.70	314.64	0.5	1.86	313.77	285.12	239.38	275.39	312.97	323.69	248.65	256.53
Europe Ex. UK (513)	215.38	-0.4	197.18	164.50	189.62	200.85	0.0	2.09	216.20	196.46	164.94	189.76	200.87	219.72	183.36	187.74
Pacific Ex. Japan (393)	315.26	0.1	288.61	240.78	277.54	272.63	-0.3	2.73	314.91	286.15	240.25	276.39	273.34	320.65	268.97	289.76
World Ex. US (1811)	184.55	-0.5	168.95	140.95	162.47	155.51	-0.3	2.10	185.50	168.56	141.52	162.81	155.91	193.47	177.71	182.51
World Ex. UK (2253)	223.84	0.1	204.92	170.95	197.06	198.39	0.1	1.73	223.67	203.24	170.64	196.31	198.09	228.59	199.58	204.99
World Ex. Japan (1985)	285.99	0.1	261.83	218.43	251.78	276.02	0.3	2.19	285.57	259.49	217.86	250.64	275.23	291.77	233.10	239.19
The World Index (2465)	228.61	0.0	209.29	174.60	201.26	203.64	0.1	1.96	228.63	207.75	174.42	200.66	203.38	233.38	202.32	207.37

Latest prices were unavailable for this edition.

4 pm close March 4

NYSE PRICES

Continued from previous page

1996/97 High	Low	Stock	Div.	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chge Prev. Close
20⅜	12	SciWil x	0.08	0.4	61	2706	17	16½	16⅝	
28⅛	17	Scotsman	0.10	0.4	15	165	u28⅛	28	28	
18⅛	12½	ScuddrNAsF	0.02	0.1		61	13¾	13½	13⅝	+⅛
15⅝	11	ScuddrNEsF	0.08	0.4		212	15⅛	15	15⅛	+¼
20¼	14¾	SeaCtA	0.77	4.5	25	139	17⅞	17¼	17¼	+⅛
16⅜	15	SeaCt1.4625 x	1.46	9.5		16	15⅝	15⅛	15⅜	+⅛
58¼	16	S'gate				3933300	48⅞	45⅞	47¼	+1½
42¼	30⅞	Seagram x	0.66	1.7		2879	38⅞	38⅛	38⅝	+½
28	17⅛	Seagull En			31	8586	19	18½	18⅞	+⅝
44⅛	29	Sealed Air			24	456	40⅞	40¼	40¼	-⅝
55	38¼	SearsR x	0.92	1.7	17	20061	u55½	54¼	54⅜	+⅛
25	17	ScCpSSB	1.30	5.4	16	1307	24⅛	23¾	23⅞	+⅛
13	11⅞	Seligm Sel	0.84	6.7		130	12¾	12⅝	12⅝	
23¾	15⅞	Sensormat	0.22	1.3		2674	17½	17¼	17½	+⅛
48½	29½	SequaA	0.60	1.4	44	108	42¼	41	42¼	+1
53⅝	39	SequaB	0.50	1.1	50	20	47½	47½	47½	
31¾	19½	SvcCp	0.30	1.1	25	7539	28⅝	28⅜	28½	-1
26⅞	19½	SvMstr	0.68	2.6	15	696	26	25⅝	25⅞	
6½	3½	ServMerch			8	887	3¾	d3½	3¾	+¼
80⅞	28½	SGSThm			14	741	66⅞	65⅞	66	-⅞
16⅝	10⅝	Shaw Ind	0.38	2.4	70	1041	13⅛	12¾	12¾	-⅜
17	10⅛	Shelby Wil	0.32	1.9	17	133	u17	16½	16¾	
107½	76⅝	ShellTr	4.64	4.5	22	483	103	102	102½	+1¾
69¼	39	ShrwWill x	0.80	1.4	21	2600	57	56	56	-¼

1996/97 High	Low	Stock	Div.	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chge Prev. Close
25¾	20⅝	Yankee Egy	1.30	5.6	11	186	23¼	23	23⅛	
57	43¼	York Int	0.36	0.8	13	1737	45¼	44¾	45¼	+¼
5	3	Zapata				261	4¾	4⅝	4¾	
25¾	5⅞	ZenthE				3613	9¾	9⅛	9⅝	
28⅞	21⅛	Zenith Nat	1.00	3.7	12	571	27	26½	27	+¼
7⅝	6½	Zeolx Inc	0.73	9.9		302	u7⅝	7¼	7⅜	
23¾	15⅛	Zero x	0.12	0.5	17	58	22¾	22	22⅝	+⅝
29	18½	Zurn Ind	0.40	1.6	15	66	25¼	25	25⅛	-⅛
11⅞	10½	ZweigFd	1.12	10.1		247	11¼	11⅛	11⅛	
9	8	Zweig Tot	0.84	9.9		523	8½	8⅜	8½	

Price data supplied by Extel, part of FT Information.

Yearly highs and lows for NYSE reflect the period from Jan 1 1996. Unless otherwise noted, rates of dividend are annual disbursements based on the latest declaration. Sales figures are unofficial.

d-new yearly low. P/E price-earnings ratio. sls-sales. u-new yearly high. x-ex-dividend or ex-rights. yld-yield. z-sales in full.
† Dealings suspended.

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AMEX PRICES

4 pm close March 4

NASDAQ NATIONAL MARKET

4 pm close March 4

- K -

Stock	Div.	P/E	Sls 100s	High	Low	Last	Chng
Koll A			103	5/32	5/32	5/32	
Komag♣		15	5943	32½	30⅛	32	+1½
Kulicke S			4283	26½	25⅝	26¼	+⅜

- L -

Stock	Div.	P/E	Sls 100s	High	Low	Last	Chng
Laboне x	0.72	84	57	18¾	18½	18½	
Ladd Furn			537	15⅞	15	15	
Lam Rsch		12	8246	38¾	37	37¾	-¼
Lancaster	0.72	16	432	46¼	45½	45 11/16	-1/16
Lance ♣	0.96	22	230	18¾	18½	18½	-⅜
Lunoptics			113	7¾	7¼	7¾	

- R -

Stock	Div.	P/E	Sls 100s	High	Low	Last	Chng
Rainbow		13	308	18⅛	17½	18	
Rallys			565	2 13/32	2⅞	2 13/32	+1/16
Raymond	0.10	19	2371	u28	27 1/16	27¾	+11/16
RCSB Fin	0.60	12	1980	32¾	32⅛	32⅝	-⅛
Read-Rite			26836	33	30⅛	32¾	+2
Recoton		15	274	16½	16	16 5/16	+5/16
RegFinCp			2315	58⅞	57⅝	58¼	+⅜
Repligen			412	1¼	1¼	1¼	-1/16
Repub Ind			29415	35¼	32⅝	33¾	-1⅞
ResrchMed		23	86	23 5/16	23¼	23 5/16	

- W -

Stock	Div.	P/E	Sls 100s	High	Low	Last	Chng
Worldinds x	0.48	22	888	20⅞	20¼	20⅜	-⅛
WPP ADR	0.10	23	423	43 3/32	42⅞	42⅞	-⅝
Wyman-Gdn	0.40	24	1175	18¾	18⅜	18⅝	+½

- X - Y - Z -

Stock	Div.	P/E	Sls 100s	High	Low	Last	Chng
Xilinx♣		27	13837	47⅝	45¼	46⅝	+1⅝
Xircom		37	6232	21⅞	20⅛	20¾	+⅝
Xoma Corp			4682	6¾	6¼	6⅞	-3/16
Yellow			4136	17⅞	15⅝	17⅛	+1⅜
York Rsch		18	477	9	8¾	9	+⅜
ZionsUtah	1.76	17	114	123⅞	122	122	-½

EASDAQ

EASDAQ is a fully regulated independent pan European Stock Market focused on high growth companies with international aspirations. The shares of companies on the EASDAQ Stock Market can be bought and sold through EASDAQ Members. EASDAQ Members are made up of Brokers and Banks from across Europe.

Company	Mid price	Change on day	Volume	High	Low	Company	Mid price	Change on day	Volume	High	Low
ActivCard	US$8.125		3500	8.25	8	Innogenetics	US$12.25	+0.75	174757	12.375	10.5
Artwork Systems	US$11	+0.125	80730	11.375	10.25	Mercer Internatl.	US$9.5	-0.625	0	11.375	10
Dr Solomon's ADS	US$24.5	-0.125	0	26	22.75	PsiTech	US$5.375	-0.125	0	6.25	4.75
Esprit Telecom ADS	US$12.25		26180	12.5	12						

Prices for 4/3/97

Information about EASDAQ can be found on the Web site at: HTTP://WWW.EASDAQ.be
EASDAQ offices are located in Brussels (Tel. 32-2 / 227 65 20) and in London (Tel. 44-171 / 515 3095).

■ Bank shares down 5% ■ Finance company shares down 7.3%

Thailand lifts suspension on trading

By Ted Bardacke in Bangkok

Thai financial authorities yesterday lifted the suspension of trading in banks and finance companies, prompting a heavy selling of the stocks.

But fears of panic in the wake of Monday's announcement of emergency measures to protect the financial system were quickly dispelled as worries there might be a run on deposits failed to materialise after the central bank reassured investors that no finance company would be allowed to collapse.

Finance company shares lost 7.3 per cent, while banks were down 5 per cent on the domestic board and the premiums foreigners must pay for popular and highly capitalised stocks narrowed. The overall market, propped up by a joint government-private sector support fund, fell 2.6 per cent to close at 858.75, the lowest level since the aftermath of bloody anti-military demonstrations in 1992.

The baht came under selling pressure in the morning but closed only slightly weaker at Bt25.93 to the dollar, compared with Bt25.91 on Monday. Dealers in both equity and currency markets said trading was orderly.

"The market let the authorities off quite lightly," said Mr Rob Collins, head of research at stockbrokers Asia Equity. "Everyone had the perfect excuse to panic and they didn't."

Monday's announcement of new requirements that banks and finance companies raise their provisions for sub-standard loans to 115 and 120 per cent respectively – a move that will cost almost $2bn – will reduce profits at the finance companies by between 8 and 30 per cent and by as much as 20 per cent for the banks over the next two years, analysts estimated.

That was a fair price to pay to ensure that growing asset quality problems are being well prepared for, many analysts said.

Criticism of the piecemeal and belated nature of the plan also subsided somewhat as finance company executives realised that the measures were more pro-active than originally thought – especially with regard to the need to raise capital with state funds if necessary.

The Bank of Thailand played down concern that a taxpayer bail-out of mismanaged companies was in the works, saying any company getting an injection of capital from the bank would be required to accept managers appointed by the central bank.

"There is still the moral hazard of not letting companies go belly-up," said one fund manager. "But I get the sense that for the first time at least some people are going to pay for their mistakes."

World Stock Markets, Page 36

OBITUARY: Yahaya Ahmad

Tycoon who masterminded Malaysian car

By James Kynge in Kuala Lumpur

Mr Yahaya Ahmad was the embodiment of Malaysia Inc. His death at 50 this week in a helicopter crash leaves a gaping hole in the inner circle of businessmen and politicians who guide Malaysia's industrial development.

Dr Mahathir Mohamad, the prime minister, handpicked the tycoon to control a car industry which the Malaysian premier regards as a centrepiece of his ambitious industrialisation drive. Mr Yahaya's death robs the industry of a leader as it tries to expand into fiercely competitive overseas markets.

An ethnic Malay from humble beginnings, Mr Yahaya was widely believed to have been granted a considerable discount to help buy a 32 per cent stake for about M$1.7bn (US$686m) in Hicom Holdings, the company which controls Proton, maker of the national car.

The Proton, like the "information superhighway", the national motor-cycle and the Petronas Tower, are potent symbols of Dr Mahathir's determination to give Malaysia an industrial backbone.

The leaders of these individual projects – Mr Yahaya was one of the more prominent – were the prime minister's trusted lieutenants, part of a small elite inner circle.

Mr Yahaya's success in leading Proton to record profits after he took over in late 1995 was seen as a vindication of this policy. It was also seen as a vindication of a policy of preferential treatment for the relatively disadvantaged Malay majority over the minority but economically dominant Chinese.

Mr Najib Tun Razak, the education minister and a central figure in the cabinet, described Mr Yahaya's death as an "irreplaceable" loss to both the country and to the ethnic Malay (*bumiputra*) community as it stepped into the global business arena.

The success of Proton is also used to justify a privatisation process in which the government picks winners rather than sells state concerns through open tender to the highest bidder.

Industry analysts argue that the vision behind Proton's boldest moves – such as its acquisition of UK sports car maker Lotus last year – was born almost exclusively out of discussions between Mr Yahaya and the country's political leaders. Yet paradoxically, the close, informal relationship between business and government inherent in such a system may lead to problems as Malaysia tries to minimise disruptions arising from Mr Yahaya's death.

Proton's success in Malaysia, where it commands a 61 per cent market share, has been at least partially due to high tariffs on imported cars. The tariff protection allowed Proton to reap high profit margins from domestic sales and cover the cost of expensive imported engines.

The company is in the process of fostering local parts manufacturers. Analysts said that this process – and its identification of potential overseas markets – is at a critical stage.

Mr Yahaya, a graduate of engineering from Loughborough College in the UK, portrayed a sensitivity which only seems to have helped in Proton's global endeavours.

Explaining how he agreed to buy Lotus from Italian entrepreneur Mr Romano Artioli, he said: "We were meeting for the first time and Artioli kept struggling to pronounce my name and title in full. He kept doing it and I thought if I don't put him out of his misery we are going to be here all day. So I gave him the money after 20 minutes."

Beijing takes unsteady aim at state-owned industries

Chinese leaders, including Mr Li Peng, the prime minister, have been pushing for the revitalisation or partial sale of the country's unwieldy and loss-making state industrial sector in the National Peoples Congress, the parliament. But much has been heard before about such economic reform without corresponding action.

Mr Fan Gang, who runs the China Reform Foundation, a privately funded "think tank", said it was "encouraging" that Mr Li, in his address to parliament, appeared to give a green light for the privatisation of smaller state-owned enterprises.

There was, however, no reference to public ownership. This marks a departure from previous government statements which have paid at least lip service to public ownership. Mr Li did not mention privatisation – the word has been declared taboo by President Jiang Zemin – but he left no doubt that 240,000 smaller enterprises across China could be put up for sale.

Mr Li pledged to "quicken the pace of reform" of smaller enterprises, and spoke approvingly of the revitalisation of such enterprises through "re-organisation, association, merger, joint stock partnership, leasing, contract operation, and sell-off".

The privatisation of smaller enterprises has been under way for some time, with hundreds already sold, but Beijing has been skittish about indicating approval because of lingering opposition from hardliners in the leadership.

"People feel quite positive about Li Peng's statement because it made clear smaller enterprises could go, and also expressed a commitment to the corporatisation of larger enterprises," said Mr Fan, a professor in the Graduate School of the Chinese Academy of Social Sciences.

Mr Li devoted a large chunk of his "work report" to enterprise reform, acknowledging that urgent

steps were required to address problems in state enterprises such as lack of capital for technological improvement.

Adding to the urgency is the fact that last year the state sector recorded its worst losses since the 1949 revolution.

Reports by the World Bank and other international institutions underline China's difficulties. Many of China's state enterprises had a disastrous 1996, especially those involved in coal, metallurgy, machinery, petrochemicals, textiles and light manufacturing.

The ratio of net profits to sales among 34,000 larger enterprises covered by the central government budget plunged to a record low – 0.9 cents per yuan of sales in the first half of the year. Profits recovered to 2.5 cents per yuan in the second half, but that was still well down on previous years.

This year China will expand its special assistance for rejuvenating state-owned enterprises to cover an extra 211 on top of last year's 300. It plans eventually to help 1,000 "key" larger enterprises. It is also extending its experiment to encourage the consolidation of enterprise groups into larger and more cost-effective units.

A western economist blamed the state sector's pitiful performance, compared with impressive continuing growth by other sectors, on a number of factors including:

● Removal of subsidies, including on interest rates;

● Accounting reform, which revealed the true weakness of state companies;

● Price reform, which raised industrial raw material costs.

Reform efforts have been desultory, however, partly because of worries about risks of civil disturbance among the workers whom leaders expect would be laid off.

In an edgy post-Deng period, no one in the government has an interest in rocking the boat, but nor can the authorities stand still. The question is how vigorously the government will press forward. This will depend partly on the economy, whose outlook is relatively positive with an expected further slowing of price rises and continuing high growth.

Chinese reformers will be seeking to build on last year which saw an acceleration in the conversion of debt into equity among a few state enterprises on an experimental basis; an increase in the numbers of mergers to 517 in the first nine months; and clarification of the role of the three holding company experiments – China Petrochemical Corporation (SinoPec), China Aviation Industry Corporation and China Nonferrous Metal Industry Corporation.

China is seeking to build industry groups which become powerful conglomerates in their own right, free to raise capital on domestic and international markets. The holding company experiment will be further extended this year.

Enterprise reform is a "pressing task", Premier Li Peng told parliament, as 60 per cent of government revenues are derived from state-owned enterprises, two-thirds of employees in cities and towns work in the state sector, and state enterprises dominate vital areas such as infrastructure and basic industries including petrochemicals.

Enterprise reform was not only a "major economic issue", it was also a "major political issue of vital importance for the destiny of the socialist system". Mr Li could not be accused of understating the problem. Chinese leaders, however, have a less than perfect record in pursuing remedies.

Tony Walker

Prices for electricity determined for the purposes of the electricity pooling and settlement arrangements in England and Wales.

1/2 hour period ending	Provisional Price for Trading on 05.03.97: Pool purchase price £/MWh	Final Prices for Trading on 05.02.97: Pool purchase price £/MWh	Pool selling price £/MWh
0030	22.71	13.01	13.01
0100	22.71	15.42	16.90
0130	33.00	31.00	32.56
0200	33.00	31.00	32.56
0230	22.71	18.06	19.64
0300	22.71	26.74	28.30
0330	18.27	26.74	28.30
0400	15.95	17.34	18.90
0430	15.95	24.46	26.02
0500	15.95	24.46	26.02
0530	11.89	12.03	12.03
0600	11.89	12.00	12.00
0630	19.60	11.68	13.24
0700	19.60	26.13	27.70
0730	22.41	28.23	29.80
0800	22.41	32.61	34.18
0830	25.32	32.61	34.18
0900	33.82	36.94	38.50
0930	57.47	36.94	38.51
1000	57.47	36.95	38.51
1030	57.47	36.95	38.52
1100	34.00	36.95	38.52
1130	34.00	36.95	38.52
1200	100.56	36.95	38.52
1230	100.56	36.94	38.51
1300	100.56	36.94	38.51
1330	44.12	32.62	34.18
1400	22.85	32.62	34.18
1430	22.86	32.62	34.18
1500	22.85	32.61	34.18
1530	22.85	32.61	34.18
1600	22.85	32.62	34.18
1630	31.58	32.70	34.30
1700	31.60	44.12	46.63
1730	32.19	67.82	71.05
1800	36.16	68.59	71.86
1830	44.94	66.45	69.19
1900	57.05	49.70	51.64
1930	58.59	41.94	43.61
2000	56.89	41.69	43.28
2030	32.14	37.61	39.18
2100	36.05	27.87	29.43
2130	30.17	28.23	29.80
2200	23.63	26.36	27.82
2230	21.76	26.13	27.70
2300	18.93	18.90	20.46
2330	18.93	18.90	20.46
2400	18.93	12.03	12.03

Prices are determined for every half-hour in each twenty-four hour period. Prices are in pounds per megawatt-hour, rounded to two decimal places. To convert prices to pence per kilowatt-hour the decimal point should be moved one place to the left, eg £16.80/MWh becomes 1.680p/kWh. Provision for the determination of pool prices is made in the Pooling and Settlement Agreement which govern the operation of the electricity pool in England and Wales. The Pool Purchase Price is the basis of the majority of payments made to generators in respect of electricity traded through the pool. The calculation of pool prices is a highly complex process, the product of which is subject to revision or correction (and sometimes major alterations) until final pool prices are determined approximately twenty-four days after the day of trading. Accordingly, due to the possibility of their revision and/or correction, no reliance should be placed upon provisional pool prices for any day being the same as final pool prices for that day. Final pool prices are also capable of revision. Pool Selling Price is the price paid by purchasers of electricity under the pool trading arrangements. It is dependent upon the determination of Pool Purchase Price. Further information on pool prices is provided on behalf of the Pool by Energy Settlements and Information Services Limited. Anyone wishing to receive such information should telephone 0115 945 6[illegible] between 8.30am and 5.15pm Monday to Friday.

Tarnished Kim appoints new premier

By John Burton in Seoul

Mr Koh Kun, a former mayor of Seoul, was appointed yesterday as South Korea's new prime minister in an effort by President Kim Young-sam to regain support following the recent Hanbo loan scandal.

The choice of Mr Koh is a popular one as he won a reputation for political integrity in previous governments, while enjoying good relations with the opposition.

The appointment is mainly symbolic as the premiership is an administrative position with little political power. Mr Koh is the sixth prime minister to serve since Mr Kim became president in February 1993.

Mr Kim's administration has been tarnished by allegations that close associates of the president were bribed to press banks to lend nearly $6bn to Hanbo Steel, which collapsed in January.

In selecting Mr Koh, the administration is trying to distance itself from its close connections with Hanbo. While serving as Seoul mayor in 1990, Mr Koh was forced to resign because he refused to participate in a corrupt city land deal involving Hanbo and the government of President Roh Tae-woo. He resisted pressure from the central government to change the use of land for a huge public housing project being built by Hanbo.

The head of Hanbo was found guilty in 1991 of bribing officials to acquire the land.

Mr Koh, who is now head of Myongji University in Seoul, is the second consecutive university president to serve as prime minister. He replaces Mr Lee Soo-sung, who was president of Seoul National University before becoming premier in 1995.

Although Mr Lee and most other cabinet members have not been implicated in the Hanbo scandal, President Kim promised a reshuffle of senior government and ruling party officials to restore public confidence in the administration.

The main economic portfolios, including the ministries of finance, trade and industry, construction and transport, and science and technology, are expected to be affected by a cabinet reshuffle this week. Mr Koh has held a wide range of administrative posts including heading the ministries of transport, agriculture and home affairs during the 1980-1988 administration of President Chun Doo-hwan.

ASIA-PACIFIC NEWS DIGEST

Japan urged to boost demand

Mr Lawrence Summers, US deputy treasury secretary, yesterday urged Japan to engineer economic recovery by boosting demand at home rather than by fuelling foreign demand for Japanese exports. He warned that a return to the massive Japanese current account surpluses of the late 1980s and early 1990s "would be very troubling to the global economy".

Mr Summers, in Tokyo to attend the first meeting of finance ministry officials and central bank deputy governors from the so-called "Six Markets" group, said he hoped Tokyo would meet its target growth of 1.9 per cent in the next financial year.

He said Washington wanted Japan to aim for economic recovery based on three factors: a macroeconomic policy framework to inspire confidence in the economy; liberalisation measures conducive to private investment; and repairing the troubled financial system.

Mr Summers urged Tokyo to implement Japan's Big Bang financial deregulation as soon as possible. The Japanese government has set itself a target of 2001 to liberalise financial markets.

Mr Summers had joined talks with his G6 counterparts and central bank officials from Japan, China, Hong Kong, Singapore and Australia in the first of what is to be a regular series of meetings. *Jonathan Annells, Tokyo*

NZ cuts spending forecast

New Zealand's new coalition government will spend NZ$250m (US$173m) less than forecast in the coming financial year, Mr Winston Peters (*pictured left*), the treasurer, said yesterday in a pre-budget statement which emphasised the importance of fiscal restraint. The coalition agreement signed between the National party and Mr Peters' New Zealand First in December forecasts increased spending on social issues by NZ$1.2bn in the 1997-98 fiscal year. However, Mr Peters said yesterday that the June budget would show extra spending of only NZ$950m.

Mr Peters said the budget preview would confound critics who said the coalition would be a "big spender". He told parliament the underspend was caused by timing difficulties in implementing new policies. However, he said the full NZ$5bn in extra spending agreed by the coalition partners would be spent over the government's full three-year term. Target areas include education, extra police and improving Maori health. *Terry Hall, Wellington*

Canberra company law reform

Mr Peter Costello, Australia's federal treasurer, yesterday flagged impending reforms to the country's corporate laws, saying the government intended to overhaul rules in areas such as capital-raising, takeovers, futures and securities markets.

He claimed the current Corporations Law was prescriptive, legalistic and out of touch with today's commercial reality. "We see corporate law as very much having an economic goal, and that goal being... to give business the opportunity to get on, with low transactional costs, with economic development, creating jobs and employment," he told federal parliament in Canberra.

Mr Costello listed areas likely to be reviewed, including "fund-raising, takeovers, futures, securities markets, directors' duties, and electronic commerce". In a later statement, he said the coalition federal government would aim to introduce legislation in 1998.

The initiative is likely to bring a fairly positive response from industry and financial institutions and comes after efforts to simplify corporation law by the former Labor government. *Nikki Tait, Sydney*

Australian economy picks up

Signs of a pick-up in the Australian economy in January, after a lacklustre period in late 1996, were evident when data for retail sales and housing approvals were released yesterday.

Retail sales rose 2.7 per cent, on a seasonally adjusted basis, the biggest monthly increase since March 1994. This followed a surprise 1 per cent fall in December – which, at the time, generated speculation of a further interest rate cut. Housing approvals, meanwhile, increased by 10.4 per cent, also to their highest level since March 1995.

National accounts figures for the final quarter of 1996 will be released later today. These are expected to confirm that the growth rate slipped to around 3.5 per cent, year-on-year. *Nikki Tait, Sydney*

Philippine exports down 10%

Philippine exports slipped 10 per cent in January from $1.86bn in December, government figures reported yesterday, continuing a slower trend in export growth which last year left the country with a $12bn trade deficit.

Led again by electronics and components, which rose from $560m to $733m and represented 43 per cent of earnings in January, exports nevertheless showed a year-on-year rise of 19 per cent to $1.69bn. Manufactured goods accounted for 85 per cent of exports and rose 21 per cent to $1.40bn. Apparel and clothing were the second highest export, in spite of falling 27 per cent to $144m. The US was the biggest market, accounting for one-third of electronics exports. *Justin Marozzi, Manila*

LEGAL NOTICES

REGISTERED NO: 76082
REGISTERED IN ENGLAND & WALES
NOTICE OF MEETING TO PASS SPECIAL RESOLUTION
IN THE MATTER OF
SMITHFIELD AND ARGENTINE MEAT COMPANY PLC
AND THE INSOLVENCY ACT 1986

NOTICE IS HEREBY GIVEN that an EXTRAORDINARY GENERAL MEETING of the above-named Company will be held at 10.00am on 1 April 1997 at [illegible] London EC4A 4HT for the purpose of considering and, if thought fit, passing the following resolutions: No 1 as a Special Resolution, No's 2 and 3 as Ordinary Resolutions and No's 4 and 5 as Extraordinary Resolutions.

RESOLUTIONS

1. "That the Company be wound up Voluntarily.
2. "That David Anthony Brookland of Abacus Financial Services Group, La Motte Chambers, St Helier, Jersey JE1 1BJ be and is hereby appointed Liquidator of the Company for the purposes of such winding up."
3. "That the Liquidator's fees be fixed by reference to the time properly given by the Liquidator and his staff in attending to matters arising in the winding-up including those falling outside of statutory duties undertaken at the request of the members."
4. "That in accordance with the provisions of this Company's Articles of Association, the Liquidator be and is hereby authorised to:
   (a) divide among the members of the Company in specie the whole or any part of the assets of the Company.
   (b) value any assets and determine how the division shall be carried out as between the members or different classes of members and/or
   (c) vest the whole or any part of the assets in trustees upon such trusts for the benefit of the members as the Liquidator so determines, but no member shall be compelled to accept any assets upon which there is a liability."
5. "That pursuant to section 165(2)(a) of the Insolvency Act 1986, the Liquidator be authorised to exercise any of the powers specified in Part I of Schedule 4 to the said Act."

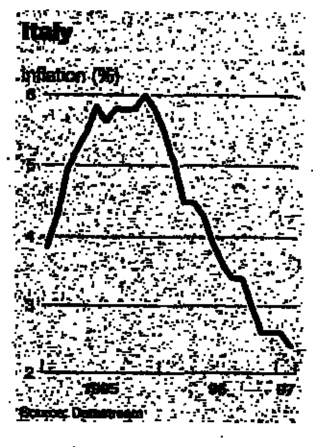
A member entitled to attend and vote at the above meeting is entitled to appoint a proxy to attend and vote instead of him. A proxy need not be a member.

By Order of the Board.
MR PETER [illegible] - Authorised Signatory
Date: 28 February 1997

Italian price rises kept to 2.4 per cent

Robert Graham reports on hopes of lower rates of inflation ahead

Italy's headline inflation in February fell to 2.4 per cent amid optimism from the treasury minister, Mr Carlo Azeglio Ciampi, that consumer prices could fall still further.



In February consumer prices increased 0.1 per cent compared with the 0.2 per cent of January, according to figures released yesterday by Istat, the official statistics institute.

The February figures, in line with preliminary returns from the main cities, confirm that Italy's inflation is now well within the EU norm and below the 3 per cent ceiling fixed under the convergence criteria for joining the single currency.

"The figures released by Istat confirm the declining trend of inflation in Italy, and I hope it will continue to drop in the coming months," Mr Ciampi told a senate hearing.

Trade unions greeted the figures with calls for the Bank of Italy to ease further its monetary policy by cutting interest rates. With a discount rate at 6.75 per cent, Italian rates are still among the highest in Europe. The unions believe only lower interest rates can kick-start the economy which this year is likely to grow around only 1 per cent – half the original government projection.

However, the Bank of Italy in the first of its biannual reports released this week remained cautious on the course of inflation. The report highlighted the impact of recent wage increases which would only be compatible with annualised inflation below 3 per cent if companies squeezed their profit margins.

A more detailed examination of the inflation figures also shows the government has little ground for complacency against a backdrop of depressed domestic demand and a stronger lira with lower import prices. An important component in the downward trend this year has been attributable to lower food prices, especially the cut in the VAT on meat to 10 per cent from 16 per cent. On a year-on-year basis if the foods component is excluded, inflation is running at 2.7 per cent.

From next month the figures will also have to accommodate a 2.5 per cent increase in railway fares and a slightly bigger rise in tobacco and cigarettes. Yesterday Mr Antonio Marzano, economic spokesman for Forza Italia, the main opposition grouping, warned inflation could rise in the second half of the year. "Inflation is declining; but this is not the result of reducing production costs – rather a fall in profits," he observed. "Thus if demand picks up inflation will reappear because costs haven't been cut."

Albania forces Italy to make hard decisions

The deteriorating situation in Albania has provided Italy's centre-left government with an ideal opportunity to demonstrate its oft repeated aim of playing a more active role in European foreign policy.

The first sign of this activism came on Monday when helicopter-borne Italian marines rescued 36 foreign nationals from the strife-torn southern port of Vlorë. Although most those rescued are Italians, the mission was also carried out at the request of other "friendly" governments which felt their nationals were at risk.

However, the question remains whether Italy is both willing and able to adopt a higher profile over Albania – especially if international efforts to ease the situation are slow to materialise. Yesterday a robust editorial in Corriere della Sera entitled "Our Business" urged the government to forget its traditional inhibitions about acting alone.

No other European Union country has greater influence over Albania than Italy. Apart from geographical proximity across the narrowest point of the Adriatic, Italy is the largest supplier of aid and the most important trading partner. Since 1991 Italy has been present in Albania with aid backed initially by some 1,000 military personnel to help establish basic infrastructure such as roads, water and electricity.

Over the past five years more than L300bn ($177m) in aid has been successfully disbursed.

Italy has also become by far the largest trading partner. Two-way trade in the first ten months of 1996 totalled L740bn. Of this L208bn covered Albanian goods sold to Italy. Much of this comprised consumer products produced by a growing number of Italian funded mini-enterprises in such sectors as shoes and textiles. Some 500 Italian companies have set up in Albania, taking advantage of the lowest wages in Europe and attractive fiscal concessions.

Not all Italian investment has been legitimate. Officials concede that Albania has been used to recycle money from mafia groups among the Sacra Corona Unita operating in Puglia and the Neapolitan Camorra. Organised crime has become increasingly bold in contraband across the Adriatic from Albania to Italy – mainly cigarettes and drugs (marijuana has been grown for the last three years in southern Albania).

The mafia is also behind the flow of illegal immigrants. Since January 900 have been stopped by the Italian authorities but many more are believed to have successfully entered the country. Only 35,000 Albanians have residence permits but the clandestine population (including a large number of prostitutes) could be four times this.

Last month Mr Piero Luigi Vigna, head of the national anti-mafia authority, said the authorities had information that linked Italian organised crime to the collapse of the pyramid banking schemes in Albania. An investigation is under way to establish the precise role of the mafia in the banking scandal that initiated protests against the Berisha government last month. This includes a report that one of the Albanians suspected of being behind the pyramid scam organised a shipment of $130m from Vlorë to Italy on January 13, two days after the scandal broke.

Protests in Vlorë: Italian marines rescued foreign nationals from the Albanian port earlier this week Reuter

With the benefit of hindsight, the Italian authorities were slow to react to the presence of organised crime in Albania. Only last year did the Italian government begin to exert pressure on Tirana to clamp down on contraband. This led to some 35 fast motor-boats being seized in one night by the authorities in Vlorë.

The Italian authorities are waiting to see what shape the new government will take in Tirana following the weekend dismissal of the former cabinet. "Until this clarifies, we don't know who to deal with," said a foreign ministry spokesman. But if the authoritarian trend continues, Italy will have to consider sanctions to force a dialogue between the government and opposition. It will also be called upon to offer more direct aid, separate from any proposals from the International Monetary Fund.

The big fear is of a mass Albanian exodus across the Adriatic provoked by civil unrest. The last time this occurred, in 1991, Italy sent some 27,000 Albanians back in chaotic circumstances packed aboard the rusting ship on which they had escaped. Now such large-scale repatriation would be more difficult to justify in the light of international opinion.

Robert Graham

France sets out plan to ease in transfer to euro

By David Buchan in Paris

French financial markets plan to switch their wholesale dealing and settlement operations to the euro at the start of 1999, but will provide bank customers and share investors with the option of having accounts and quotations in francs as well as euros until the definitive disappearance of the national currency in 2002.

This is the thrust of a joint report this week on the "transfer to the euro" by the Bank of France and the French Association of Credit Institutions (Afecei).

The report confirms French financial institutions' desire to soften the impact of their switch to the euro on January 4, the first working day of 1999. Paris thus still plans to make a more rapid switch to the euro than any other big European financial centre, but without frightening customers. During the transition period (1999 to 2001) financial institutions will still have to convert transactions in euros back into francs for share issuers and investors who still want their accounts in francs. Banks would have to do the same for their customers. This reflects the rule, dubbed "ni-ni" [neither-nor], by which financial institutions would neither be able to force a customer to adopt the euro nor refuse customers who want to opt for the euro.

Mr Hervé Hannoun, the Bank of France deputy governor, said yesterday: "The importance of the report is that we now have agreement of the entire Paris marketplace on the principles of the move to the euro." He added that new payment arrangements "will give us the capacity to respond to any demand by customers – probably mainly from big companies – to start using the euro before the end of the transition period".

The report is intended as a rule-book for financial institutions to plan their reorganisation and investment for the switch to the euro.

$7bn project reluctantly abandoned after BA and United Airlines promised too few orders

Why Boeing scrapped super-jumbo plan

By Michael Skapinker, Aerospace Correspondent

British Airways and United Airlines of the US both told Boeing that they wanted to buy new 550-seat jets, but were not prepared to place large enough orders to make production commercially feasible, according to Mr Bruce Dennis, Boeing's vice president for marketing.

Boeing recently scrapped its plans to build the super-jumbo, although its European rival Airbus is sticking to its own plan for a similar airliner.

Mr Dennis said designs of the planned Boeing 747-600 had been extensively tested in wind tunnels.

BA had played a substantial part in designing the proposed aircraft, he said.

In January, Boeing announced that the market for the 747-600 was not large enough to justify the $7bn development cost. Mr Dennis said Boeing had abandoned the project reluctantly as BA was one of its leading customers.

"You just hate to look at one of your best customers and say, 'We just can't do it at this time'." He said Boeing would continue to re-evaluate the market for aircraft of more than 500 seats to see whether it was feasible to manufacture them.

BA last week told a UK public inquiry into the building of a fifth terminal at London's Heathrow airport that it remained convinced that aircraft with more than 500 seats would be built.

Boeing has been arguing with Airbus Industrie, the European consortium, over the size of the market for aircraft of 500 seats or more. Airbus says the market is big enough for it to continue with plans to build the A3XX, a family of aircraft with between 470 and 600 seats.

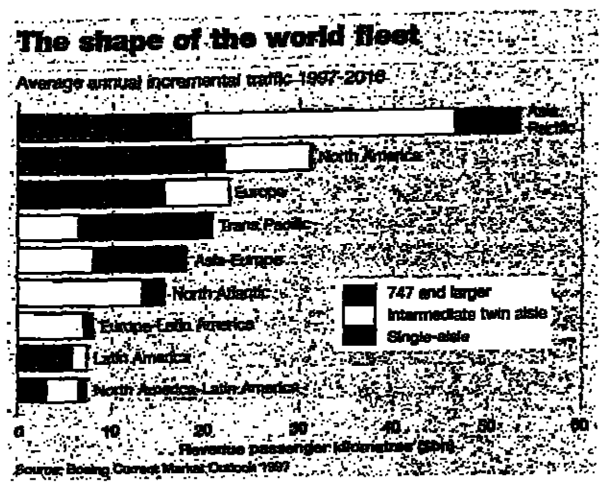
Mr Dennis said Boeing believed that if such an aircraft was built, only 480 would be sold over the next 20 years. Airbus is due to present its latest estimate of the market for large aircraft tomorrow.

Mr Dennis said Boeing, in its annual market forecast, predicted that airlines would buy a total of 16,160 new jets worth $1,100bn over the next 20 years. Almost 70 per cent of these would be smaller single-aisle aircraft. Aircraft of this size would account for 43 per cent of aircraft spending between this year and 2016.

Intermediate-sized aircraft would account for 23 per cent of sales by unit and 39 per cent by value. The market for aircraft of 400 seats and above, including the Boeing 747, would account for 7.3 per cent by unit and 18 per cent of expenditure, Boeing said.

Mr Dennis said that by the end of this year, Boeing would be producing a record 40 aircraft a month. He said, however, that airlines were keeping orders in line with traffic growth, which is expected to rise by an annual average of 4.9 per cent over the next 20 years.

Mr Dennis said: "There's no sign of the overheated airplane buying spree of the late 1980s."



WORLD TRADE NEWS DIGEST

France raises aero exports

France last year increased its aerospace exports by 28 per cent to FFr58.1bn ($10.2bn), with foreign sales amounting to nearly two thirds of total turnover. Mr Serge Dassault, president of the French aerospace trade association (Gifas), predicted the export boom would continue on the back of last year's 55.1 per cent rise in civil export orders and 38.6 per cent increase in foreign military sales. He forecast the industry's total turnover – FFr108.4bn in 1996 – would show another 7 per cent rise this year to reach FFr116bn. Mr Dassault said that the rise in military exports was led by Eurocopter, which is Aerospatiale's joint subsidiary with Daimler-Benz Aerospace, Turbomeca and his own aircraft company, which is delivering Mirage 2000-5 jets to Taiwan. *David Buchan, Paris*

Warning on Australian tariffs

Mitsubishi Motors Australia (MMAL) yesterday said the Australian motor industry would not survive until 2010 if the Australian government accepted a proposal to cut tariffs to 5 per cent by 2004. "We believe [if the government adopts the Productivity Commission proposal] it is a matter of when, not if the industry ceases," Mitsubishi's managing director Mr Mike Quinn said. He added that benefits of a tariff cut from 15 per cent in 2000 to 5 per cent in 2004 were very small. "The risk is enormous, the risk is that you would lose the industry and lose 100,000 jobs," Mr Quinn said. *Reuter, Adelaide*

Itochu studies Vietnam move

Itochu of Japan is studying the viability of setting up a joint venture with a Vietnamese company to sell small and mid-sized trucks and buses made by Isuzu Vietnam, which is to start production of these vehicles next month. "We are now considering plans to set up a joint venture to sell Isuzu-made trucks and buses in Vietnam in April," said an Itochu spokesman, "but we are still undecided on partners for the venture."

The Nikkan Kogyo newspaper earlier reported that Itochu would set up a 50/50 joint venture with Saigon Automobile Mechanical Corporation with an annual sales target of 200 to 300 units. *AFX Asia, Tokyo*

Bangladesh port plan

TCM Group of the UK has proposed building Bangladesh's first privately-owned container port in the southern port city of Chittagong. The group is leading a consortium of five companies to raise the $300m finance needed for the project.

The group has already asked the government for 300 acres of land at the mouth of the Kamaphuli river which skirts the city. The port will be built on a build, own and operate or build, own and transfer basis. The government has welcomed the proposal. "We definitely need another port in Chittagong and we are looking at the proposal very closely," said industry minister Tofail Ahmed. The government has opened up the country's ports and port services to private sector investment, but investment in the country has been slow. *Kasra Naji, Dhaka*

■ Trinity Holdings of the UK yesterday said it had won orders to supply 421 double-deck buses to Hong Kong's three largest bus operators in a deal worth around £70m ($43m). *Reuter, London*

Canberra ends tariff on sugar

By Nikki Tait in Sydney

Australia is to abolish the tariff levied on sugar imports but will retain the industry's "single desk" marketing arrangements. These allow the Queensland Sugar Corporation, a grower-funded statutory body, to act as a centralised buyer for most of the country's raw sugar and to handle all export sales.

The tariff abolition, which will take effect on July 1, was announced to the federal parliament yesterday by Mr John Howard, prime minister.

"We do want the industry to grow on the back of world markets and we will work with the industry to develop a national sugar export strategy," he said. The decision to retain the single desk marketing arrangements was "a very important element" in the decision to remove the tariff.

Australia is the world's sixth largest sugar-producing country and one of the largest exporters of raw sugar – although, unusually, it sells very little refined sugar overseas.

The industry has been among the most heavily regulated and protected, with duties and embargoes on imports dating back to 1901. However, as pressure for agricultural reform mounted in the early 1990s, some restrictive arrangements were unwound.

Since 1992, there has been a specific tariff on imports, currently set at A$55.00 (US$43) a tonne. The volume of sugar brought into the country is minimal but the tariff allows the industry to secure higher domestic prices than it might otherwise. Net industry assistance from the tariff has been estimated at around A$26.7m (US$20.9m).

Yesterday's decision brought an immediate outcry from canegrowers. Mr John Allison of the Australian Cane Farmers Association said: "It doesn't make good economic sense, especially when many of Australia's overseas competitors have not made any moves to cut their tariffs," he said.

Trade sanctions are hurting US business, Congress is told

By Nancy Dunne in Washington

The US has enacted 61 laws and executive actions over the past four years in an attempt to punish, isolate, or change the behaviour of 35 countries. These actions have cost US companies up to $790bn in potential exports, according to a report issued yesterday by the National Association of Manufacturers.

Sanctions range from bans on the sale of military goods, levied against Nigeria in 1993, to the prohibition of economic assistance, to outright embargoes on trade and investment. NAM says they rarely achieve their ends.

"They have yet to topple a targeted government," the report says. "They provide an external scapegoat for well-entrenched regimes to compensate for domestic failings. Once launched, they are extremely difficult to terminate."

The report is part of a stepped-up effort by the US business community to convince the current Congress of the lessons learned by its predecessors – that unless sanctions have broad multilateral support they are largely ineffective.

As the US has increasingly resorted to unilateral sanctions, it has drawn fire from its allies. Particularly abhorred is the use of "secondary boycott measures," extended against companies which do business in the countries targeted for sanctions.

These measures, such as those enacted last year against Cuba, Libya and Iran, "clearly violate numerous international agreements to which the US is a party," the report says. US business has paid a steep price for its sanctions policies, according to NAM. "Foreign companies and governments are understandably reluctant to enter into any long-term commercial relationship with US companies if the threat of sanctions looms," says the report.

Sanctions and export controls have cost US companies engine orders from Airbus, infrastructure energy projects in China and the rice market in Iran.

A decision by the US Export-Import Bank not to help finance the Three Gorges Dam project for environmental reasons cost 240 jobs over five years at Voith Hydro of Pennsylvania. Instead, the 12 hydro-electric turbines will be made at Voith's parent company in Germany.

Between 1993-96 the US adopted 22 measures to promote human rights and democracy. Thirteen countries were targeted: Angola, Bosnia, Burma, Burundi, China, Croatia, Cuba, Gambia, Guatemala, Haiti, Nicaragua, Nigeria and Yugoslavia.

Fourteen laws or executive actions, imposed to combat terrorism, were targeted towards Cuba, Iran, Iraq, Libya, Nicaragua, North Korea, Sudan and Syria.

NAM recommends proposed sanctions should be subject to specific criteria relating to effectiveness. They should also lapse, unless reauthorised by Congress, or be waived, if the president determines it is in the national interest to do so.

THE TARGETS

Nuclear proliferation: Nine measures against China, Cuba, Iran, North Korea and Pakistan.

Political stability: Eight measures against Afghanistan, Angola, and Bosnia.

Anti-narcotics: Eight measures against Afghanistan, Burma, Colombia, Cuba, Haiti and Nigeria.

Worker rights and prison labour: Seven countries targeted: Cuba, the Maldives, Mauritania, Pakistan, Qatar, Saudi Arabia and the United Arab Emirates.

Sell-off tests waters of Moroccan reform

Casablanca's utilities sale has been caught in a flood of political wrangling, writes **Roula Khalaf**

More than two years after France's Lyonnaise des Eaux was invited by the Moroccan government to take over the distribution of water and electricity in Casablanca, the company has become the centre of a controversy and has yet to see the contract it negotiated approved by local authorities.

The contract that Lyonnaise negotiated highlights Morocco's struggle as it moves towards a liberal economy and a more open political system.

The troubles surfaced when it became clear that a city which already pays more than its Mediterranean neighbours for electricity will end up paying even higher prices as a result of the contract.

But attacks on the deal have been compounded by political opposition. While some are urging greater transparency in awarding contracts, others are fighting to safeguard entrenched special interests.

Morocco's expanding financial capital needs expert help. In agriculture-dependent Morocco, rain is usually a reason for rejoicing. But in Casablanca, home to 3m people and 60 per cent of the country's economic production, rain brings flooding because rain-water drainage systems are inadequate. Waste water disposal is even worse, with sewage dumped off the coast.

The RAD, the public water and electricity distribution company, has not made a profit for years. The government, committed to cutting Morocco's external debt burden, is no longer willing to guarantee the credits the RAD receives from the World Bank, thus preventing it from investing in maintenance and repairs, let alone expansion.

In 1994, the Moroccan government decided the problem was out of control. Given Morocco's warm relationship with France, the government invited Lyonnaise, France's second-largest water-based conglomerate, to negotiate a 30-year contract privatising distribution of water and electricity. The local council, as the body which has to approve the Lyonnaise contract, has been subjected to heavy lobbying by the RAD as well as the powerful General Confederation of Moroccan Enterprises.

As transparency, debate and decentralisation are in fashion in today's Morocco – and essential to the liberalising image the country strives to project – the government has been forced to stand by in the face of raging debate. The government did not intervene even when the tone of accusations reached a critical level. Lyonnaise, for instance, has accused the confederation of manipulating the contract's projections, while the confederation has lashed out at the company, accusing it of intimidation.

> 'Nothing justifies the increase in prices projected'

The result is that after approving the contract in principle, the local council has dragged its feet, to the point where many wonder whether the French company will wait any longer.

The problem with the contract is two-fold. First, because it was initiated by the government, it was not subject to a tender and opponents are asking whether a better deal might be available. Moreover, Lyonnaise's invitation is seen by some in Casablanca as a gift to a French company at the expense of the Moroccan consumer. Opposition to the contract thus becomes a way of rebelling against the government of King Hassan II.

Second, the contract projects a rise in electricity prices to consumers of 7 per cent to 10 per cent, of water by 10 per cent to 15 per cent and waste-water disposal by 60 per cent.

"We are not against privatisation and we have nothing against Lyonnaise but we have studied the file and concluded that nothing justifies the increase in prices the company is projecting," says Mr Ahmed Benkirane, first vice-president of the confederation. "We know that the RAD is behind in investing in equipment and waste-water elimination, but we also know that if well-managed it can invest without raising prices."

The RAD, on its way to extinction, seems to have suddenly cleaned up its act. It claims to have turned a profit last year, although its accounts are not due until May. It has bought the story of the RAD's rejuvenation, leading Lyonnaise to accuse it of pandering to special interests.

The confederation also says Lyonnaise is not injecting enough of its own capital. Mr Gilbert During, director of the Lyonnaise liaison bureau in Casablanca, says the company is investing DH800m ($85m), with another DH9bn to DH10bn financed largely through bank credits and cash flow.

While Mr During says that he understands concerns over price rises, he opposes the confederation's attempts to muscle in on the talks. Ultimately, it will be up to the Moroccan government to save the contract.

Although he maintains that the contract is no longer subject to renegotiation, Mr During says that there are other means of keeping prices down. He suggests giving his company a tax break to allow it to keep the increases to a minimum.

But ultimately the position of Lyonnaise is clear. "We are here to make money," says Mr During. "Sooner or later the company that invests recoups its investment, which means the customer pays for it."

Oil-rich Venezuela looks to petrochemical future

By Raymond Colitt in Caracas

For decades Venezuela's petrochemical industry has been overshadowed by the country's principal economic activity – oil.

Short of capital and know-how, the petrochemical industry was geared primarily towards the limited domestic market, while vast quantities of associated gas, a key raw material in petrochemicals, have been pumped back into the oil wells.

Venezuela's petrochemical concern Pequiven, a subsidiary of the state oil company PDVSA, is seeking to promote the sector with an aggressive expansion plan to push the country into the global chemicals market. By 2003 Venezuela hopes to double and diversify its consolidated petrochemical production of 7.5m tonnes per year.

The cornerstone of the plan is to seek further private investment, both domestic and foreign, and redirect the industry to international markets. Unlike the petroleum industry, petrochemicals has been open to private companies. Pequiven's 18 joint ventures with largely domestic private companies account for 35 per cent of capacity and nearly half of all products.

Eager to increase its chemical exports from $770m to close to $3bn within a decade, Pequiven is seeking associations with players in the global market. Recently Pequiven and Mobil agreed a $1.5bn olefins plant in eastern Venezuela.

Venezuela's comparative advantages include abundant natural gas, inexpensive hydroelectricity, as well as its relative proximity to key markets. Proven gas reserves are around 267,000bn cubic feet. The petrochemical industry would use one-tenth of total gas production in 2005, estimated at 8bn cu ft per day.

These advantages, says Mr Raymond J. McGowan, president of Mobil Chemical Company, will allow the new plant to be "one of the world's lowest-cost producers".

Pequiven is also negotiating two ammonia-urea plants worth an estimated $800m with the chemical company Arcadian, acquired in 1996 by Canada's Potash Corporation of Saskatchewan. The complex, with a capacity of 1.8m tonnes of ammonia and 1.4m tonnes of urea per year, would be built near the existing Jose chemical complex, with its nearby deep-sea port on Venezuela's north-western coast.

"It makes sense to open up the petrochemical sector," says Mr Robert Bottome, who heads the consultancy Veneconomia in Caracas. "They've got the resources but are short on capital and know-how."

In order for Pequiven to meet its $1.1bn share in the 10-year $5.9bn investment plan, it plans to tap domestic and international capital markets.

A planned law would allow the sale of at least 50 per cent of Pequiven, the first initial public offering of any PDVSA subsidiary. The bill stands a chance of being approved by congress, says Mr Nelson Chitty, head of the social Christian party, Copei.

The global chemical market is a cut-throat world, Pequiven officials admit, and have thus decided to focus on developing products where they see strong comparative advantages. These are fertilisers, olefins and oxygenates (methanol).

CONTRACTS & TENDERS

Peru rebels unmoved by Cuban offer

By Sally Bowen in Lima

President Fidel Castro's assurance that Cuba is prepared to offer a haven for the hostage-takers at the Japanese ambassador's residence in Peru was greeted with relief in both Tokyo and Lima yesterday. But Mr Nestor Cerpa, leader of the leftwing guerrillas who are holding 72 hostages, dashed hopes of a solution when he "clearly and adamantly" insisted he was not interested in exile.

Speaking on Monday evening after a surprise visit by President Alberto Fujimori, Mr Castro said he considered it a "moral duty" to make a "modest contribution towards resolving the problem". There has been no official indication from the Dominican Republic, also visited by Mr Fujimori, that it is ready to be an alternative refuge.

The Peruvian president's whistle-stop Caribbean trip is being seen by some analysts as an indication that his much-vaunted "oriental patience" – he is descended from Japanese immigrants – is wearing a little thin. But there is no sign that the Tupac Amaru Revolutionary Movement is ready to abandon the residence or the country – at least, not until it sees some of its key demands met.

If anything, Mr Fujimori's weekend trip seems to have irritated Mr Cerpa. For the first time in many days yesterday, the guerrillas launched a propaganda initiative, hanging messages printed on sheets from the windows of the residence. They exhorted Peruvians to "fight for your rights". Another stated ominously: "Surrender is not the way of followers of Tupac Amaru."

Meanwhile, the direct talks between a government representative, Mr Domingo Palermo, the education minister, and the guerrillas have fallen into a predictable pattern. For three weeks, three times a week, an armour-plated car imported from Canada and bearing the Red Cross badge enters the residence and transports the MRTA number two, Mr Roli Rojas – and sometimes Mr Cerpa – the few yards across the road to the house designated and equipped for the conversations.

The chief stumbling block remains the guerrillas' refusal to abandon their main objective: the liberation of an unspecified number of their jailed comrades. Latest figures indicate some 370 are detained. Their spokesmen have repeatedly claimed they will not settle for less, though improvement of prison conditions is also part of their agenda. Mr Fujimori is equally, if not more, insistent that no prisoner convicted of terrorism in Peru will be freed.

Mr Fujimori, whose popularity has dipped in recent months, believes that the longer the crisis drags on, the more he has to lose. Although there has been a tacit agreement by the opposition and the media to avoid criticising his administration's handling of the crisis, in the past few days Mr Fujimori has himself raised the question of responsibility.

In what appears to be an attempt to protect his close and trusted allies in the national intelligence service (SIN) and the armed forces, he has shifted blame for the storming of the residence on December 17 – and the embarrassing ease with which a handful of youthful, jungle-trained guerrillas outwitted the security forces – on to the national police. The SIN, according to Mr Fujimori, passed information of a possible attack on to police in Lima but, by error or incompetence, the information was not acted on.

Democracy working magic in Mexico City

The clean-up is under way although the vote is still months off, reports Leslie Crawford

It is the city with the worst pollution record in the world. There is not enough water for its 8.5m residents. The metropolis is sinking under its own weight and is prone to devastating earthquakes. Crime is on the rise. Its economy is in the doldrums. Protest marches snarl up traffic every day.

By almost any measure, Mexico City has become an ungovernable monster. Residents complain about the smog, water shortages and the corruption at city hall, because complaining is all they can do: they have never had the chance to elect their city authorities.

The *regente*, or city mayor, has always been a rising star of the ruling Institutional Revolutionary party (PRI) and a trusted lieutenant of the president. As a result the job has had more to do with building power bases and dispensing patronage than with responding to the needs of the sprawling city.

All this may be about to change. Electoral reforms will enfranchise Mexico City's inhabitants in July, when for the first time they will elect a mayor and a city assembly with the power to oversee local government expenditure.

The arrival of politics has had dramatic effects.

As if by magic the capital's desultory public works programme has sprung back to life. Bridges are being completed, metro lines are being extended, and friendly cops police neighbourhoods on bicycles. The capital has finally reached an agreement with conurbated towns to build three water treatment plants for the vast metropolitan zone, home to 20m people or a fifth of Mexico's population.

The sudden burst of activity, however, may have come too late to help the PRI's electoral chances. Almost every opinion poll of city residents this year has put the PRI in third place, behind the conservative National Action party (PAN) and the leftwing Revolutionary Democratic party (PRD).

The polls reflect deep resentment of an economic crisis which has slashed real incomes, as well as genuine alarm at rising crime. According to the police department, one violent crime is committed every two minutes in the capital, a 50 per cent increase since the peso devaluation in December 1994. Residents blame the PRI.

"There is a growing popular perception that the PRI has become part of the problem, not its solution," says Mr Daniel Lund, a pollster for Mori, the international polling company.

The PRI, however, has not yet thrown in the towel. Losing the capital would be a devastating blow for the party that has ruled Mexico for 67 years.

An elected *regente* will take command of 206,000 city hall employees, 50,000 police officers, and an annual budget of almost $5bn. Die-hard PRI members believe this is too big a prize to hand over to the opposition.

The PRI is therefore seeking to revamp its image before a jaded electorate. At a primary last month it chose Mr Alfredo del Mazo, a former governor and one-time presidential hopeful, as candidate for the mayorship race. Mr Del Mazo, who is television-trained and has a reassuringly deep voice, struck an appropriately humble note in his acceptance speech. He said his campaign would consist mainly of listening and learning from Mexico City's long-suffering residents.

The PAN, which enjoys a lead in the polls, is bracing itself for a rough ride.

In December, President Ernesto Zedillo dismissed his attorney-general, Mr Antonio Lozano, the only PAN member in the cabinet. Mr Lozano is now embroiled in a scandal involving the illegal remuneration of witnesses in the trial of Mr Raúl Salinas, brother of former president Carlos Salinas, who is accused of instigating the murder of a PRI leader.

The bribery allegations are particularly damaging to the PAN, which has built its reputation as a paragon of moral rectitude and clean government.

"My main fear is that the PRI will run a dirty campaign, and that Mr Zedillo will be drafted to help the PRI win the election," says Mr Carlos Castillo Peraza, a former PAN president picked as the party's candidate in primaries on Sunday.

A more serious barb against the PAN – the majority party in only four of Mexico's 31 states – is that it lacks sufficient experience to run Mexico City.

Mr Castillo Peraza brushes this worry aside, saying he could take over the administration of the capital with about 500 trusted aides.

The leftwing PRD voted overwhelmingly on Sunday evening to select its former presidential candidate and so-called "moral leader", Mr Cuauhtémoc Cárdenas, for the mayoral race.

Whoever wins will have to deal with an avalanche of pent-up demands and have only three years in which to make a difference to the lives of Mexico City's inhabitants. Some analysts see potential pitfalls in the foreshortened term of office of the capital's first elected mayor.

"The task of governing Mexico City is a poisoned chalice," says Mr Guillermo Valdes, a political analysts at GEA consultants in Mexico City. "It could be the political tomb of whoever wins the election."

Worst pollution record in the world: rubbish collects near a Mexico City bridge Keith Dannemiller

AMERICAN NEWS DIGEST

Republicans in call on funding

Republican congressional leaders called yesterday for an independent counsel to investigate Clinton administration campaign fund raising.

With Vice President Al Gore admitting he telephoned donors of funds to the Democratic party from the White House, Mr Newt Gingrich, the House Speaker and Republican leader, said the scandal was becoming "bigger than Watergate".

The Senate Majority Leader, Mr Trent Lott, also a Republican, said Mr Gore's conduct raised a "serious question" of wrongdoing that warranted investigation by an independent prosecutor. He told reporters Senate Republicans might lead a drive for an independent counsel. Such investigators look into possible wrongdoing by government officials. *AP, Washington*

'No' vote for mega-Toronto

Residents of the six municipalities that make up metropolitan Toronto have voted overwhelmingly against an Ontario provincial government proposal to amalgamate them into a single "mega-city".

The province's Conservative government, implementing what it calls a "common sense revolution" to improve public finances, has promised big savings by rationalising municipal services. Under the amalgamation plan, the number of city councillors would fall from 120 to 44.

A well-organised and imaginative campaign against the plan has attracted growing support.

Critics say the cost savings are unproven, and amalgamation will undermine the local community spirit that has made Toronto (population 2.3m) one of the world's most admired cities. *Bernard Simon, Toronto*

Clinton bans cloning research

President Bill Clinton yesterday banned federally funded human cloning research and asked private scientists voluntarily to enforce a similar moratorium until government advisers have reported on the issue.

The ban is broader than the prohibition on US-funded human embryo research in effect since 1994, and Mr Clinton said his intent was to close any loopholes pending the review of cloning he has requested from his National Bioethics Advisory Commission.

"Any discovery that touches upon human creation is not simply a matter of scientific inquiry," the president said. "It is a matter of morality and spirituality as well."

Mr Clinton has asked the commission to review the legal and ethical issues involved and to report its findings within 90 days. *Reuter, Washington*

World Bank to review dam

Environmentalists yesterday hailed a decision by the World Bank to review the environmental and resettlement problems associated with the 67km Yacyretá dam on the border between Paraguay and Argentina.

The review process was triggered by a complaint by a Paraguayan non-governmental organisation that Argentina was not abiding by commitments to ameliorate damage.

The Centre for International Environmental Law credited Mr James Wolfensohn, the World Bank president, with helping the reluctant borrowing members of the board reach a compromise allowing the review to go forward. *Nancy Dunne, Washington*

Future of troubled English factory seems assured after 'co-operation' from government

Ford chief confident of state subsidy

By Haig Simonian in Geneva

The long-term future of Ford's Halewood plant in north-west England seemed virtually assured yesterday after a statement from Mr Jac Nasser, chairman of Ford of Europe. He gave the clearest indication so far that the company expected to receive a satisfactory subsidy from the UK government to continue carmaking beyond 2000.

"We've had very good co-operation from the UK government," he said at the Geneva motor show. "I believe the signs are good; I'd say we're on track."

Mr Nasser, who was closely involved in Ford's decision in January not to build the next-generation Escort at Halewood – putting the assembly plant's future at risk – said the company hoped the government would respond to its aid request by the end of the month.

He said Ford had not asked for a specific sum but had made a case for assistance to develop a supplier park at the plant and to invest in new machinery to build a future derivative of the next Escort. The subsidy level would be determined under the government's job preservation criteria, he said.

Ford last month averted a strike at its UK factories after agreeing to reduce the planned Halewood redundancies to 980, from 1,300, and indicating its wish to build the new Escort derivative there after production of the current-generation car ends in 2000. The decision on the new vehicle was, however, contingent on satisfactory government aid.

Mr Nasser said the outlook for Ford's other UK plant, at Dagenham in east London, was good given the expected growth in Europe's small car market. Dagenham, which builds the Fiesta hatchback, was designated as the lead plant for the next generation Fiesta during last month's negotiations with trade unions.

The company, which this week unveiled its new Puma coupe to broaden its small car range, said it expected the "supermini" – typified by the Fiesta – to account eventually for 35 per cent of the European market compared with 32 per cent now. "And we're probably on the low side," said Mr Nasser. That would imply sales of an additional 600,000 small cars a year in Europe – albeit at the expense of other vehicles.

● Mr Nasser said the position of Ford's Fiesta line at Cologne in Germany had also been strengthened. However, he declined to give any guarantee that the next generation of Ford's Scorpio executive model would be built in the country. Scorpio sales have dropped to about 30,000 a year, and it is widely believed the successor vehicle will be imported from the US under Ford's up-market Lincoln brand. Mr Nasser did not exclude the possibility of German job cuts in that event. But he said the current vehicle, due for a facelift this year, was likely to remain in production for at least another two years.

Lex, Page 14
Peugeot-Citroën appeal, Page 15

Tractor output rises by 43% in four years

By Peter Marsh in London

The UK's tractor industry last year reached its highest output since 1985, underlining a solid improvement in a business viewed as a symbol of manufacturing strength.

Britain last year made a third of all farm tractors produced in western Europe, with output well in front of Germany and France. It also edged ahead of Italy, the European leader in 1995.

Factories produced 70,432 tractors, 9 per cent up on 1995 and 43 per cent ahead of the 49,000 recorded in 1992 during the last recession.

The figures – from Off-Highway Research, a London consultancy – illustrate the improvement across much of UK manufacturing in recent years, particularly in areas requiring a flexible workforce to switch between products.

In modern tractor factories, virtually every machine is different, reflecting the range of requirements of farmers.

Mr Chris Barrow-Williams, a tractor expert at Off-Highway Research, said the UK had a "good record" in catering for this diversity through flexible work patterns. Low labour costs and a strong component industry were also factors.

The industry's performance was almost entirely the result of efforts by three manufacturers which are responsible for 98 per cent of UK production. They are Agco and Case of the US, and New Holland, in which Fiat of Italy holds a majority stake.

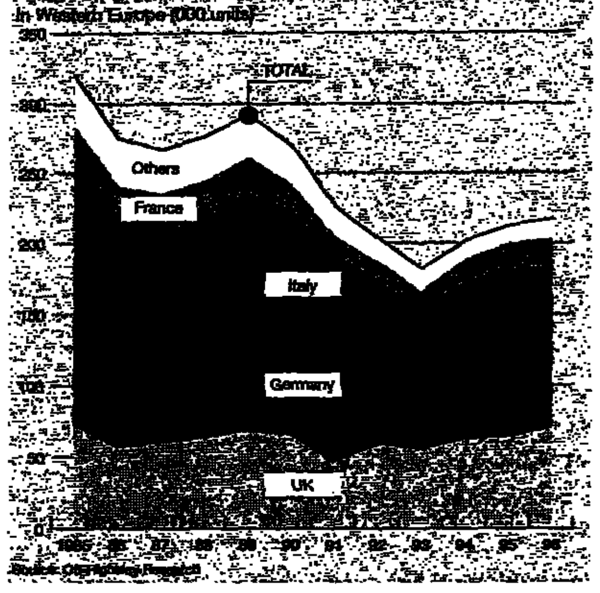
The remainder comes mainly from J.C. Bamford Excavators, the privately-owned UK construction equipment company.

Tractor sales from UK factories, 85 per cent of which are exported, total about £2bn ($3.3bn) a year. The industry employs about 10,000 people including those in supplier companies.

For much of this century, tractor production has been viewed as an icon of industrial virility, particularly in Communist Russia. An official at the UK Department of Trade and Industry said the figures were "good news".

According to the consultants' data, which are based on manufacturers' figures, the UK last year made almost as many tractors as it produced in 1985 – when the figure hit 72,550 – while tractor volumes in Germany, France and Italy have declined by at least a third since then.

The output falls by in Europe's other three main tractor-making countries mirror the 32 per cent drop in total west European tractor output between 1985 and 1996, from 320,152 to 217,544.



While the UK's share of European output dipped in the late 1980s and then recovered, with a particular spurt from 1992 onwards, the three other countries have seen consistent declines in tractor production from which they have been unable to recover.

Germany made 85,800 tractors in 1985, but only 49,300 last year, while production in France over the period has fallen from 32,850 to 19,800 and in Italy from 92,850 to 63,300.

Labour to return Budget to old timing

By David Wighton, Political Correspondent

A Labour government would move the Budget from November back to March, returning to the system of separate announcements on government spending and taxation. Aides to Mr Gordon Brown, the opposition party's shadow chancellor of the exchequer, yesterday confirmed that he was "strongly minded" to scrap the combined Budget and autumn statement introduced by the present government in 1993.

Claiming that the move would be "sensible and popular", Mr Brown's advisers said there was wide agreement that the reform had introduced more problems than it solved. "It is clear that the November Budget has not been popular with the City or parliament."

Mr Brown was prompted to confirm the plan by Conservative taunts that a Labour government would have two tax-raising Budgets in quick succession. Labour said it would announce a Budget within weeks of taking office, but would wait until February or March for its next tax statement. Since Mr Brown is committed to sticking within the government's spending plans for next year, there would be no need for a spending statement in the autumn.

Officially, Mr Brown has not decided whether to shift the unified tax and spending announcement to March or to revert to the old system. However, it is understood that Mr Brown believes there are powerful arguments for separating tax and spending.

Some Treasury officials would welcome a return to the old arrangement because the unified Budget has imposed a very heavy workload in the second half of the year. Critics of the reform believe it has stifled debate on spending priorities. They also argue that moving tax decisions further towards the end of the tax year in April would make it easier to assess the trend of tax revenues for the following year.

Mr Ian Barlow, head of tax at accountants KPMG, said: "The combined Budget seemed like a good idea at the time, but it has not proved to be so."

● Senior MPs from Labour and the centrist Liberal Democrat party yesterday cleared the way for a joint communique today on constitutional reform after the general election expected in May, John Kampfner and George Parker write.

The parties have agreed that a referendum on electoral systems will offer just two options. These will be the long-standing first-past-the-post system, which Mr Tony Blair, the Labour leader, prefers, and a new system, to be decided by a commission to be established within months.

Advocates of change in both parties have been considering the many options used in other countries, from national lists, to multi-member constituencies, to hybrids.

Both parties have for some time agreed on the main tenets of reform.

However, neither Mr Paddy Ashdown, the Liberal Democrat leader, nor Mr Blair are expected to attend the launch of the agreement, for fear of turning it into an election issue.

Both leaders view a cross-party deal as essential in preparing the ground for a reforming parliament, but they accept the public – and elements of their own parties – are suspicious about pre-election pacts.

MPs warn of squeeze on arms spending

By Bernard Gray, Defence Correspondent

Spending on defence equipment could face a sharp squeeze whoever wins the coming general election, the House of Commons defence committee claimed yesterday.

The committee's report on the defence budget has sparked a political dispute about whether a Conservative or Labour government would be able to afford the ministry's spending plans.

The committee said peak funding for programmes such as the £40bn Eurofighter, the £7bn Horizon frigate, the £2bn Nimrod maritime patrol aircraft and the £2bn Trafalgar submarine fleet will all coincide in 2002-2003. The committee is concerned that with the forces already at full stretch, the ministry's budget may not be able to cover all of the expensive programmes. The MPs said that, at a minimum, the ministry's budget had to be maintained at current levels. "Any further reduction would jeopardise the defence of the realm," it added.

Mr Michael Portillo, the chief defence minister, said the report was a warning that any incoming Labour government would not find easy cuts in defence to pay for other programmes, and would need to make deep cuts in the armed forces if it wanted to save money in defence.

However, he said that while the department's finances were tight, all of the main equipment programmes would be safe if the Conservatives won the election, expected to be held on May 1.

"We have said we are ready to sign up for the 232 Eurofighters which the Royal Air Force so badly needs," Mr Portillo said. "Labour has not committed itself to the numbers we say we would order."

Mr David Clark, the Labour defence spokesman, said the committee's report underlined the extent to which the armed forces were overstretched, confirming the Labour party's opinion that only a full defence review would be able to match the ministry's commitments and resources.

Mr Bruce George, the senior Labour MP on the committee, said the report was also a warning to an incoming Labour government that defence was not an area for easy budget cuts. "I think the pressures on a Labour chancellor [chief finance minister] would be enormous, but I would hope the ministry of defence would resist any pressure," he said. "An incoming Labour government will have enormous problems in trying to manage defence within the current budget projections."

Daimler Benz optimism, Page 15

Adtranz wins $326m trains contract

By Charles Batchelor, Transport Correspondent

One of the newly privatised train operating companies yesterday awarded a provisional £200m ($326m) contract for 44 new air-conditioned trains to Adtranz (ABB Daimler-Benz).

This is the first significant order for new British-built rolling stock since the break-up of the national network. The trains will be built at the Swiss-German railway manufacturer's works at Derby in the English Midlands.

The contract, expected to be confirmed this month, awakened hopes among railway manufacturers that the momentum of new orders is gaining pace. The new rail companies have announced plans for between £1.5bn and £2bn of new trains.

Adtranz was awarded a £34m contract for four three-car trains by Chiltern Railways last September, the industry's first UK order for nearly three years.

Prism Rail, which has a total of four rail franchises and an Alternative Investment Market listing, plans to introduce the the new trains on the London, Tilbury & Southend line to the east of the capital in 1999. This route was once known as "the misery line" because of the unreliability of services.

The new trains will have an enhanced power system to provide fast acceleration and braking and will be capable of speeds up to 160kph.

The order is expected to be followed by several more as train operators attempt to meet the deadlines set by the government's rail franchising director for bringing new trains into service.

Adtranz will supply and maintain the trains over 12 years at an annual cost of £17m under a deal agreed with Prism and with Porterbrook Leasing, the rolling stock leasing company owned by the Stagecoach bus group. The new trains account for about £140m of the deal's total value, with maintenance costing a further £60m.

Adtranz, which was forced to shut a newly modernised factory in York in 1995 when train orders dried up, employs 1,000 people at Derby and a total of 4,500 in the UK. Mr Stig Svärd, Adtranz chief executive, said: "This is great news and not just for our company. It also signifies the start of a new rail revolution in the UK and the growth of our industry."

Partnership law change faces firm reservations

Professional groups have criticised planned safeguards for creditors

Government plans for a partnership law designed to persuade professional firms not to register offshore in Jersey have run into opposition from the firms themselves.

Jersey, the largest of the Channel Islands between England and France, is not part of the UK and has its own legislature even though Queen Elizabeth is head of state.

The new UK law limits the legal risks faced by partners. But firms have attacked safeguards designed to protect creditors if a firm became insolvent.

The UK government's Department of Trade and Industry wants to allow receivers or administrators to "claw back" money for creditors if partners paid themselves "excessive" profits in the two years before an insolvent firm was wound up.

If a firm was forced into insolvency by a big damages claim, a judgment would have to be made by a court on whether the partners should have continued paying themselves more than the sum required for "reasonable domestic needs".

The DTI's consultation paper argues that if a firm takes professional advice on the likely success of a damages claim, it may be that it could justify paying profits to partners, and this would be taken into account.

But Mr Graham Ward, one of the leaders of the campaign to win greater protection for partners, says: "Why are not the normal corporate safeguards good enough? It strikes me as unduly draconian."

Accountants are likely to tell the DTI that clawback, in effect, transfers the risks under the present law – in which partners are jointly and severally liable – to the new limited liability partnerships or LLPs. "So much for the idea that they can be part of the firm without putting their family and homes at risk," says Mr Ward.

Two big accountancy firms, Price Waterhouse and Ernst & Young, plan to register in Jersey as LLPs. Firms of lawyers, architects, actuaries and chartered surveyors are also understood to be considering offshore registration.

The Inland Revenue indicated on Monday that any firm going to Jersey would run into considerable tax liabilities – but the firms involved are likely to try and fight the ruling.

The DTI said last month it wanted to offer firms LLP status in the UK. But in return for limiting partners' risks it would require firms to honour safeguards for creditors and suppliers.

The DTI is keen to make sure that tough measures are taken to protect those who would normally be able to seek damages from a partner under the present law – otherwise the reforms could be seen as pandering to the interests of the big firms.

Under LLP laws a partner's personal assets are protected from legal action against a negligent partner in the same firm. The assets of the firm and the negligent partner are still at risk.

Jim Kelly

UK NEWS DIGEST

Fund rethinks MGAM deal

Morgan Grenfell Asset Management is to be asked to retender for its role as fund manager for the £360m ($586m) pension fund of the municipal authority of Lewisham, in London, following the controversial departure of Ms Nicola Horlick, one of its star fund managers. MGAM is an offshoot of Deutsche Bank.

Lewisham is thought to be the first pension scheme to decide to retender its MGAM mandate since the departure of Ms Horlick in January. The Wellcome Trust last month told MGAM that it wanted it to continue to manage £489m of its £8.5bn fund. Ms Horlick resigned as a director of MGAM in January after the dismissal of Mr Keith Percy as chief executive, which itself followed the discovery a long-running deception by Mr Peter Young, formerly one of MGAM's stars.

Ms Judith Armitt, finance director of Lewisham, said that during the three years the authority had employed MGAM it had enjoyed "excellent returns". But concerns had been raised by the departure first of Mr Percy, who had been in charge of the Lewisham account, and then Ms Horlick, who had taken it over. *William Lewis*

■ FISH STOCKS

Ministry accused of complacency

The agriculture and fisheries ministry was yesterday accused of "complacency" towards the threat to cod stocks in the North Sea. Lord Selborne, chairman of the House of Lords science and technology committee, told Mr Stephen Wentworth, the ministry's top fisheries official, of repeated warnings that something "drastic" was likely to happen to cod stocks. "It seems to me there's an element of urgency which escapes you," Lord Selborne said.

The committee was holding a special public hearing prompted partly by last month's warning from a Scottish Office fisheries scientist that "swift and effective action" was needed to avoid a repetition of the collapse of cod stocks off Canada. *Alison Maitland*

■ WATER PURITY

Contamination is investigated

A water company could face prosecution following an investigation into an outbreak of cryptosporidium, a bug which causes diarrhoea. The Drinking Water Inspectorate, the government quality watchdog, yesterday launched an investigation into Three Valleys Water after the company, which supplies counties bordering the north of London, warned 680,000 people to boil their water. There had been 32 confirmed cases of cryptosporidiosis in the area, three to four times the normal level for the time of year. The watchdog has prosecuted four water companies since privatisation in 1989 for supplying water unfit for human consumption. Cryptosporidium is a parasite found in the faeces of animals. *Jane Martinson*

■ SOCCER

Accused players face second trial

Three players and a Malaysian businessman accused of rigging top-level English soccer matches were left facing the prospect of a re-trial yesterday after the jury hearing their case was unable to reach verdicts. Former Liverpool and Southampton goalkeeper Bruce Grobbelaar, former Wimbledon goalkeeper Hans Segers, ex-Aston Villa and Wimbledon striker John Fashanu and Mr Heng Suan Lim, a Malaysian businessman, were accused in the UK's first-ever alleged match-fixing trial. The Crown Prosecution Service said it intended seeking a retrial. The defendants, all released on bail, left the court leaving their lawyers to maintain their clients' innocence. *John Mason*

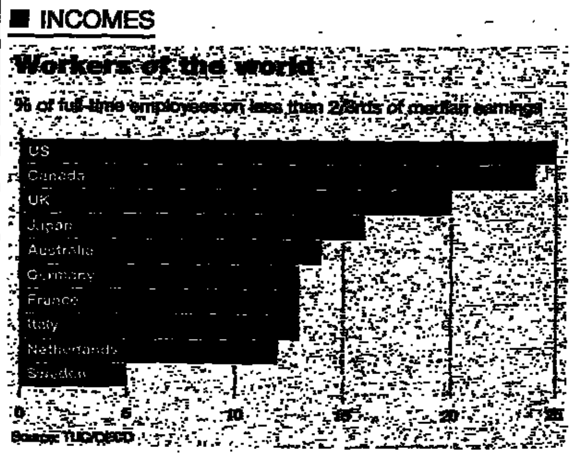
■ NORTHERN IRELAND

Adjournment expected for talks

The multi-party talks about the future of Northern Ireland are expected to be adjourned today ahead of the UK general election. Mr George Mitchell, the former US Senate majority leader who chairs the talks, will report today on progress. The governments of the UK and the Republic of Ireland are then expected to announce a recess in the talks, which started last June but have been held up by disagreements over the issue of paramilitary weapons. *John Murray Brown*

Editorial comment, Page 13; Inward investment, Page 23

■ INCOMES



Nation branded low pay capital

The UK has become the "low pay capital of Europe", according to the Trades Union Congress, which said more than 5m employees were earning less than £4 ($6.50) per hour while more than 1m were on as little as £2.50 per hour. A TUC report said that most European countries have around 12 per cent to 13 per cent of employees earning less than two-thirds of average earnings, whereas in the UK the figure was 20 per cent. "This is not a finding of which Britain should be proud," said the report. "It is the result of economic failure rather than success. The gap between rich and poor in the UK has increased dramatically in the last 25 years, reaching the highest level recorded since the second world war." The TUC said most industrial countries had experienced a recent trend towards greater inequality. But the UK rate of increase in inequality had been faster than anywhere except New Zealand. *Andrew Bolger*

■ TELECOMMUNICATIONS

BT ordered to end ad campaign

British Telecommunications, the former state company, has been ordered to end a £2.6m ($4.2m) marketing campaign apparently aimed at winning back users who had defected to cable operators. Oftel, the industry regulator which issued the order, said BT had deliberately poached its rivals' customers and the discounts offered by BT left its prices below the level of its costs. "We have acted firmly because the campaign is not fair competition between operators," said Mr Don Cruickshank, director-general of Oftel. "BT has discriminated unduly in targeting other operators' customers." This is the third time in six months that BT marketing has fallen foul of the regulator. Last year, Oftel ordered BT to halt an offer for high-speed data lines and a promotion with British Sky Broadcasting, the satellite broadcaster. *Nicholas Denton*

Kisangani feels protectors' lash as rebels beat on door

The Zairean town is under threat from Kabila's guerrillas but has little cause to love government forces, writes **Michela Wrong**

It was a moment that spoke volumes about the state of the Zairean army. A friendly colonel, entrusted by the army chief of staff with showing a group of western journalists around Kisangani, invited them to interview some bicycle owners – the taxi drivers of this near car-less but key riverside town in east Zaire. But, as the drivers began complaining about army intimidation, other soldiers started circling like sharks.

One drew a knife and slashed a bicycle tyre. Then a truck loaded with military men, their eyes bloodshot, drove up. Residents scattered as a soldier reached for his rifle.

"Tomorrow we'll be back to loot," the men shouted as the nervous colonel drove the press away. The walkabout was over, any hopes of presenting an image of military discipline in the face of an encroaching enemy shattered.

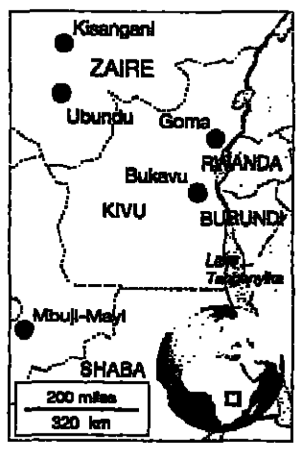
Kisangani, which is next on the list of military conquests for the rebel Alliance of Democratic Forces, is bubbling with tension. In Kinshasa, the capital, government officials admit the fall of Zaire's third largest town would be a turning point in the four-month war. But in Kisangani, home to half a million people, there are few signs that disaster can be averted.

Crushed by a string of defeats at the hands of Mr Laurent Kabila's guerrillas, Zairean soldiers are so demoralised their commanders dare not send them into the forest for fear they will never return. "They come back bleeding, saying they have been attacked by rebels," says an aid worker. "In fact they have inflicted their own wounds in the hope of going on sick leave."

Soldiers concentrate instead on mining the roads and the rebels, bent on halting the bombing raids launched from Kisangani's airport, pass effortlessly through the bush. Officials say the rebels are now within 100km of Kisangani, advancing along two main routes.

Complicating the military picture are some 150,000 exhausted and emaciated Rwandan refugees from the abandoned camp of Tingi-Tingi. Those still able to walk are trudging towards Kisangani, threatening to swamp a town which was abandoned by western aid organisations last weekend.

The plan is to divert the refugee flow west to Ubundu where a new camp could be established, rather than risk bringing rebels into Kisangani along with the refugees.



Officials do not hide their rage at an evacuation ordered by the United Nations which they regard as a deliberate betrayal by the international community. "On the security front there was absolutely nothing to justify their departure. They left for no reason and they sowed panic amongst the population," says Mr Lombeya Basongo, governor of Kisangani.

The evacuation – ordered, according to aid officials, not because of fear of the rebels but because of fear of an imminent round of army looting – underlines a lack of faith in the military's capacities. Some local resident are convinced that General Mahele Liongo, chief of the armed forces, recently moved his administrative headquarters from Kisangani to the diamond town of Mbuji-Mayi and that government officials have been leaving.

Residents are streaming into surrounding villages ahead of the anticipated showdown. Their pessimism is based on history. In the 1960s Kisangani was captured by the Simba rebels. Their repression of the local population was dwarfed by that carried out by the Zairean army when it recaptured the town with the help of European mercenaries and Belgian parachutists.

The economy – based on diamonds mined from surrounding riverbeds – has never recovered from army looting in the early 1990s. Late last year, soldiers retreating from the first rebel attacks on Goma and Bukavu arrived in Kisangani in stolen cars, pillaging, killing and raping.

"Our soldiers are supposed to protect us but instead they mistreat us," says a youth.

Although the curfew does not come into force until darkness falls, the town is almost deserted by 4pm. On the day of the journalists' visit, the soldiers had been on a minor rampage and traders had cleared the stalls of the central market.

"What we need is reconciliation," said a man, who once drove trucks for the aid organisations but is now unemployed. "We have suffered here before and we don't want it to happen again."

Steel industry's overcapacity may 'ease in five years'

By Stefan Wagstyl, Industrial Editor

The burden of chronic overcapacity, which has blighted the steel industry since the 1970s, could ease in the next five years, according to a forecast from CRU International, the British research organisation.

CRU predicted that annual crude steel production would rise to about 68m tonnes above last year's level of 750m by 2001, while annual capacity would increase by only 18m tonnes.

But Mr Philip Tomlinson, the director of CRU's steel business unit, yesterday warned the Financial Times steel industry conference in London that the forecast was based on an assumption that there would be substantial capacity cuts in eastern Europe and the former Soviet Union, and more modest reductions in western Europe and Japan.

Mr Tomlinson forecast capacity would rise by 12 per cent in Asia and by 7 per cent in North America, where there has been considerable investment in low-cost mini-mills.

He predicted a 7 per cent capacity cut in western Europe, where some companies are supporting overmanned loss-making plants. In the former Communist states, CRU expected a 24 per cent decline in output from 136m tonnes in 1995 to 103m tonnes in 2001. Mr Tomlinson predicted that capacity would rise to 988m tonnes, only 2 per cent above 1995 levels, so that long-term capacity utilisation – a key measure of the industry's efficiency – would climb above 80 per cent.

However, Mr Tomlinson warned steel producers against over-optimism. "Even assuming some capacity reductions in the former Soviet Union, Europe and Japan, overcapacity could remain a problem."

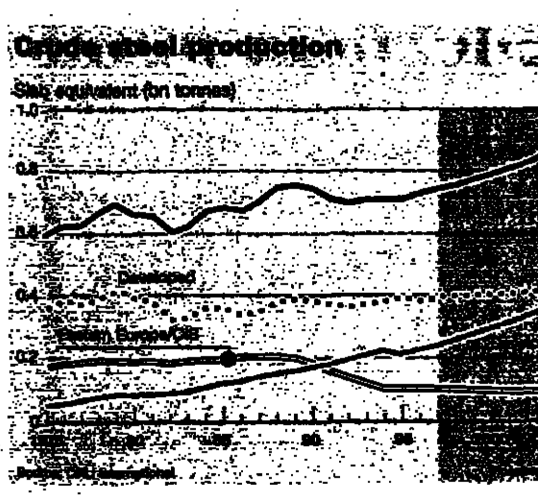
He forecast that developing countries would continue to increase their share of total steel output, which had climbed from 9 per cent in 1975 to 30 per cent.

Mr Jeff Edington, executive director for technology at British Steel, told the conference that more needed to be done through privatisation and other means to make the steel industry more competitive. He said the trend for governments to end their support for steel and privatise producers was welcome in removing "the crutch of governments underwriting losses".

But he added: "More needs to be done by the industry itself through mergers and further rationalisation."

Mr Edington urged steelmakers to pay more attention to product and market development to increase its profit margins. For example, British Steel had recently established an automotive engineering group to work with motor companies to ensure that steel-based products were incorporated into the design of new models. He said steel had no natural right to its pre-eminent position in materials markets. The threat from other materials such as plastics and aluminium was real and intensifying.

The industry also had to work harder at attracting talented people. The continued rationalisation and internationalisation of the industry combined with investment in information technology meant steel would be run "by a small number of professionally excellent and sophisticated people".



Zimbabwe 'ripe for investment' but government will help pick foreign partners

Role of state vital, says Mugabe

By Michael Holman and Joel Kibazo

Government intervention was "absolutely necessary" to ensure that privatisation and foreign investment in Zimbabwe helped give the country's black majority a greater share of the white-dominated economy, President Robert Mugabe said yesterday.

Speaking on the eve of a Confederation of British Industries (CBI) conference on Zimbabwe which opens in London today, Mr Mugabe said that wide-ranging reforms had left the country "ripe for investment".

He singled out the agro-industry, textiles, pharmaceuticals, and electronics sectors, as well as infrastructural projects by foreign contractors, operating on the "build-operate-transfer" principle.

But in an interview with the Financial Times, he insisted that the government would continue to play a leading role in the choice of foreign partners. He said it would also ensure that privatisation would be used to encourage black entrepreneurs.

His comments are likely to provoke debate about the country's economic management under his leadership.

His critics will say they reflect a determination to maintain a level of state involvement that harks back to the socialist policies which he once espoused.

Mr Mugabe, however, yesterday compared his approach to that of the government of post-apartheid South Africa, with both administrations having to redress the legacy of minority rule.

"We want to ensure that in the process of privatising, we do not create greater room for control by those persons who already control the greater part of our economy," Mr Mugabe said, referring to the 100,000-strong white community.

"The indigenous people must have a stake in their country, they cannot continue to be hewers of wood and drawers of water in their own country.

"We want to turn workers into entrepreneurs," Mr Mugabe said. Privatisation "is the area that can best assist them.... We do not want these parastatals to be grabbed by the same people who already own lots of resources in our society."

Asked whether there was a danger that the indigenisation policy would discourage foreign investors, Mr Mugabe replied: "No, there is room for British, American, or Japanese companies to operate. But the state must continue to play its part, directly or indirectly. We are open to partnership with private and foreign investors, but not leaving the field to the market."

Mr Mugabe, 73, who was re-elected last year to a further six-year term in office, continued: "At this stage, government intervention is absolutely necessary, more so because the indigenous population is not in control. Let them get into positions of control, and then you can have a *laissez faire* policy."

He defended last year's controversial decision to sell a 51 per cent state in the country's state-owned Hwange power station to the Malaysian company, YTL.

Western diplomatic missions in Harare complained that the tender procedure had not been transparent. But Mr Mugabe vigorously denied that there had been any irregularities.

"We as government decided we needed a Malaysian company. At present the participants in our economy are basically European. We wanted a company from Asia, one of the Far East tigers, to bring something new and fresh."

Mr Mugabe also dismissed criticism of the award of the contract to build the country's new international airport to a Cyprus-based company, which is represented in Harare by his nephew, Leo.

The cabinet had decided by "a large majority" that the company had submitted the best design. There was no conflict of interest, said Mr Mugabe. "Leo is Leo, and he doesn't get any assistance from me, none whatsoever."

Mugabe yesterday: 'The indigenous people must have a stake in their country; they cannot continue to be hewers of wood and drawers of water in their own country' Colin Beere

With its broad-based export portfolio – tobacco, gold, ferrochrome, horticulture, cotton, as well as manufactured goods, Zimbabwe is better able to survive the vagaries of the weather and the curse of commodity dependence than almost all its African counterparts.

The country's $250m Hartley platinum project is due to come on stream this year, further boosting foreign exchange earnings.

But erratic implementation of a World Bank supported structural adjustment programme introduced in 1991 has hampered development.

Most of the macro-economic targets were missed, with the budget deficit, which should have been reduced to 5 per cent of GDP by 1995-96, currently running at about double that. Inflation has averaged 25 per cent, although it has now fallen to 15.8 per cent, according to the Ministry of Finance.

With public sector debt running at close to 100 per cent of GDP, and interest charges taking up nearly 30 per cent of public spending, the country is now in a largely domestic debt trap from which there will be no easy escape.

Since the collapse of its enhanced structural adjustment facility agreement with the International Monetary Fund nearly two years ago, donor disbursements have slowed as the international community awaits a new programme.

But liberalisation of the foreign trade and payments system, extensive deregulation of the money, capital, labour and foreign exchange markets, and the partial freeing up of the foreign investment regime, have done much to improve the business climate.

BUSINESS AND THE ENVIRONMENT

Crisis forced the Italian city to tackle recycling, but it has reaped the benefits, says **Leyla Boulton**

Milan can-do

There is hope yet for the recycling laggards of the European Union. Their inspiration could be the northern Italian city of Milan, which was able to triple its collection of recyclables almost overnight, albeit under pressure of a crisis.

EU countries and their industries which fear that they will not be ready by 2001 to meet a deadline for the recycling or "recovery" by other means of half of all packaging waste can learn from the Milan experience.

"We had two emergencies," says Walter Ganapini, the city official in charge of environment who also works part-time at the European Environment Agency in Copenhagen.

The first emergency, to do with waste management, was triggered at the end of 1995 by the abrupt closure under local pressure of a landfill site used by Milan to dispose of 1,700 tonnes of its daily 2,300 tonne output of household rubbish.

As rubbish lay uncollected, the city quickly moved to institute door-to-door collection of paper, glass and plastic and cut its dependence on landfill.

Milan now recycles around 30 per cent of its domestic waste, while sending the rest to incinerators which generate electricity or other landfill sites.

Although these steps mean it is already complying with the specific EU target for recycling of 15 per cent of each type of packaging, the same cannot be said of most of Italy, concedes Ganapini.

"Milan is the national door of Italy towards Europe," he says. "The only other towns speaking the European language are small towns in the Po Valley," he says, referring to work to comply with the spirit and letter of EU law. "But we will fight to unify the country," says this committed Euro-enthusiast.

As landfill costs 'explode', recycling could soon become the cheapest waste disposal option

In the next few months, Milan plans to deal with its second emergency – waste water treatment – with tenders for three new water purification plants worth L600bn (£219m) to help it meet EU water quality and sewerage standards.

Henk Hansler, head of Petcore, a European industry federation for the recycling of PET plastic used in drinks bottles, says a recycling plant offers a perfectly good return on investment – if collection of recyclables is subsidised by local government.

PET recycling across the EU jumped 66 per cent last year to 75,000 tonnes, providing an example of how much can be achieved from a low start point, with help from industry federations such as Petcore, which are keen to enhance their members' environmental credentials.

Another condition for success, the development of an adequate market for recyclable materials, already exists in Italy, according to Pietro Majorana, director-general of Replastic, a statutory consortium which recycles plastic liquid containers. He cites a contract he signed recently to supply 40,000 tonnes of plastic of various types to entrepreneurs planning to build new recycling plants.

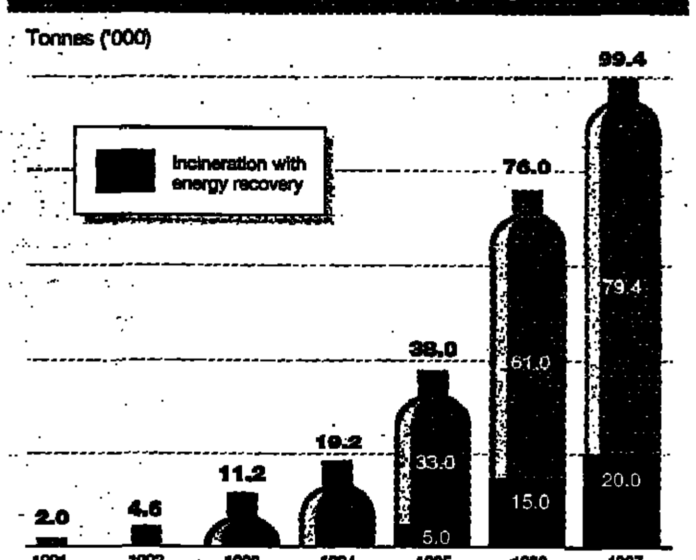
Majorana adds that as landfill costs "explode" in Italy, recycling could also soon become the cheapest waste disposal option of all. He says the complaint that plastic recycling can sometimes consume more resources than it saves – for instance, by being transported over long distances – does not apply to the L7bn state-of-the art recycling plant built by Replastic at Novate, a Milan suburb.

"This is a plant which does not disturb the environment," says Majorana.

Like other European laggards on recycling, including Britain, Italy has been alert to the mistakes made by Germany when it launched Europe's first – and most expensive – scheme for recycling packaging waste.

That said, Milan has had a fortuitous advantage in keeping down recycling costs. The city's waste collection system was already so inefficient that AMSA, the municipal waste company, was able to add door-to-door collection of recyclables to its services without increasing its charges, simply by cutting its costs.

Plastic container collection in Italy



Unsustainable lack of standards

Business badly needs common standards for measuring its environmental performance and impact on the environment, according to an unpublished report which seeks to measure progress made by business in aiming for goal of sustainable development since the Rio Summit five years ago.

"Surprisingly little progress has been made in the development of sustainability indicators for business, or government, or any other sector of activity," says the report, Signals of Change.

It will be launched on March 13 at a meeting of non-governmental organisations in Rio by the World Business Council for Sustainable Development, a group of 121 companies set up partly at the initiative of Stephan Schmidheiny, the "green" billionaire.

It calls among other things for changes to accounting practices to reflect the environmental costs of trade and industry in the accounts of businesses and countries.

Despite "increasing pressure from the investment community to identify environmentally determined business risks" it warns that progress towards "putting a financial number ... on a cleaner environment" is likely to be slow given the "history of accounting practice".

It also calls for commonly-agreed criteria to devise life-cycle analyses which measure a product's environmental impact over its entire lifetime. Finally, it warns that investors often find "the lack of benchmarking and reporting standards" for environmental reports a "handicap in interpreting the information for their particular needs".

The report will be available from E&Y Direct, PO Box 934, Poole, Dorset, BH17 7AG, UK. Tel 44 1202 679885. Fax 44 1202 661 999

LB

Hong Kong put in the picture

A photographer aims to raise ecological awareness in the territory, writes **Sarah Olowe**

The environment may not be an immediate concern for Hong Kong's citizens in the run-up to the handover to China in July, but some are still working hard to highlight the territory's ecological riches and the need for environmental vigilance.

It is an aim that at first seems unnecessary – more than 60 per cent of Hong Kong is protected park. Yet a new organisation, the Hong Kong Photographic Foundation, is aiming to draw attention to the environment. Its founder, Edward Stokes, is supported by several of Hong Kong's leading businesses, which are concerned that much of what makes Hong Kong an attractive place to live in may soon disappear.

Much of the problem stems from Hong Kong's topography. A lot of it is mountainous and cannot be developed easily. Its population of 6.5m people – already squeezed into a relatively small area – is expected to reach at least 8.1m in the next 10 years, based on current figures of migration from China. That, together with a rapidly growing economy, has led to increased pressure to develop any remaining space regardless of recreational or aesthetic value.

There are other considerations too. Hong Kong sewage still flows into the harbour untreated, its inhabitants breathe a daily cocktail of 1,500 tonnes of pollutants, the territory's solid waste is about to spill out of its state-of-the-art landfills and urban Hong Kong is very noisy.

Stokes, an environmentalist and photographer, argues that Hong Kong is locked on to a path of unsustainable development. "In the early days when it was a new city, fast, demand-led development was a genuine necessity, but Hong Kong has matured into a successful international centre," he says. "The time has come for it to start managing demand as well as encouraging development or the territory will consume itself with growth."

However, Helmut Henning of Jebson, the Danish trading group with extensive Asian interests, believes that environmental issues are relatively low on the government's list of priorities: "Everyone understands and recognises the need to do something about the poor environment in Hong Kong but the government continues to use laissez-faire as a means, not of escaping responsibility, but of not pushing as hard as they could in certain directions."

Hong Kong has been helped by the move of many environmentally destructive industries, such as textile-dyeing and printing, into China where production costs are cheaper.

It has also been helped by some forward looking businesses. For example, Jean-Marie Leclercq, general manager of Hong Kong's Hotel Nikko, has done some pioneering work on hotel energy efficiency and waste reduction, including such prosaic initiatives as turning down the air conditioning and switching lights off. The environmentalists argue that making savings by cutting waste should be driven by commercial considerations.

Stokes believes Hong Kong should also aim to be a regional leader in urban living

The Swire Group, one of Hong Kong's biggest employers, is acknowledged even by environmentalists to be the territory's leader in best practice. Tony Tyler, head of corporate development in the airline Cathay Pacific, owned by the group, believes that part of the company's success has been a willingness to include environmental considerations in core decision-making.

"We can't please everyone, but knowing where we are going wrong allows us to keep an eye out for opportunities to compensate elsewhere and we will not rule out an option simply because it is more expensive," he says.

This approach has not always meant spending more money. The seawater cooling system for Cathay's terminal at the new Chek Lap Kok airport was more expensive, but better environmentally, than a conventional system. Cathay negotiated a cost reduction from the airport authorities.

But while praising Swire's leading role in Hong Kong, critics also point out that this did not prevent Cathay lobbying for 24-hour opening at the existing Kai Tak airport (380,000 people live under the flight path) or for making permanent the new airport's temporary fuel receiving facility, which threatens a dolphin sanctuary.

The fact that Hong Kong's leading company on environmental issues is, as Lisa Hopkinson, for Friends of the Earth Hong Kong, puts it, prepared to "bend its principles," demonstrates that no company is going to "green itself" into extinction.

Nick Rhodes, Swire's senior executive, believes environmentally-friendly decision-making will happen on a wide scale only when it is seen to have a direct bearing on a company's competitiveness, and that a "polluter pays" policy is the answer for most of the problems.

Hong Kong is the economic catalyst driving southern China but pollution there is already much worse. Stokes believes the territory should also aim to be a regional leader in urban living. "The time has come to look beyond 1997, to increased cross-border co-operation and the sort of Hong Kong people want to be living in 10 or 50 years from now."

Hong Kong's Wild Places, An Environmental Exploration by Edward Stokes is published by Oxford University Press.

COMMENT & ANALYSIS

Edward Mortimer

Tale of two cultures

In spite of different approaches to their Moslem minorities, Britain and France have experienced similar social strains

Some years ago a Conservative elder statesman declined to take part in a proposed seminar on religions in conflict. "I cannot bear Islam," he explained, "in any shape or form."

That reaction probably represents western public opinion about Islam better than the soothing utterances mumbled by most politicians in public. If you mention religion and conflict in the same breath, people assume you are talking about Islam, and usually that the Moslem side is in the wrong.

Many Moslems make similar assumptions about the west, seeing it as materialist, permissive and predatory. Within the last century, many Moslem countries were defeated and occupied by western ones. Western products and culture have saturated the Moslem world. Technical and economic changes have uprooted millions of Moslems from their rural homes, casting them into slums and shanty towns.

Many have salvaged self-respect by rediscovering their religion, in a variety of versions which purport to strip it of superstition and restore its pristine virtue. This phenomenon is often called "fundamentalism", but most scholars now prefer "Islamism", which captures its transformation from a traditional cult into a self-conscious ideology.

The phenomenon is not confined to the Islamic world. It affects people of Moslem background living in western Europe, whose parents migrated there, mainly as unskilled labour, in the 1950s and 1960s.

In a slightly different form it affects black people in the US, whose ancestors arrived from Africa as slaves. Islam was adopted in the 20th century by black people who wished to mark a break with the dominant Christian culture which they held responsible (perhaps not unreasonably) for their exploitation.

The comparison of American Black Moslems with Islamic activists in France and Britain – at first sight a surprising one – is made by Gilles Kepel, a French specialist on Islamic politics, in a study now available in English.* It can be read as a defence of French secularism, against both Moslem and English-speaking liberal critics.

Many Moslems regard France as the most hostile of all western countries, partly thanks to Jean-Marie Le Pen's National Front, which harps on the alien and allegedly unassimilable Islamic culture of North African immigrants.

But it also stems from the "headscarf affair" of 1989, when three Moslem girls were sent home from a state school in Creil, north of Paris, for refusing to remove their headscarves in class. Arguments over the affair convulsed France, and have rumbled on since.

Kepel is not ashamed of his countrymen's reaction. "Despite the sarcastic comments," he writes, "there was nothing ridiculous about the debate on the veil. Far from revealing France to be a declining, backward-looking country worried about its fragile identity, it set France's horizon firmly on the future organisation of post-modern society."

He argues that parents who sent their daughters to school veiled were not simply exercising personal freedom but were part of a campaign to establish a Moslem "community" which the state would have to recognise as a group. He thinks Britain and the US have gone too far in accepting such demands.

In the US, group rights have partially displaced individual rights since the 1960s, with ethnic minority groups seeking to influence school and university curriculums and winning positive job discrimination ("affirmative action").

In the UK, Kepel argues, both the British state and the Asian Moslem groups have imported a model of "communal" politics first developed in British India. This seems far-fetched. But it is true that the idea of a body politic composed of sub-groups or "communities" with their own leaders sits more comfortably with the British political tradition than with that of Jean-Jacques Rousseau and the "one and indivisible Republic".

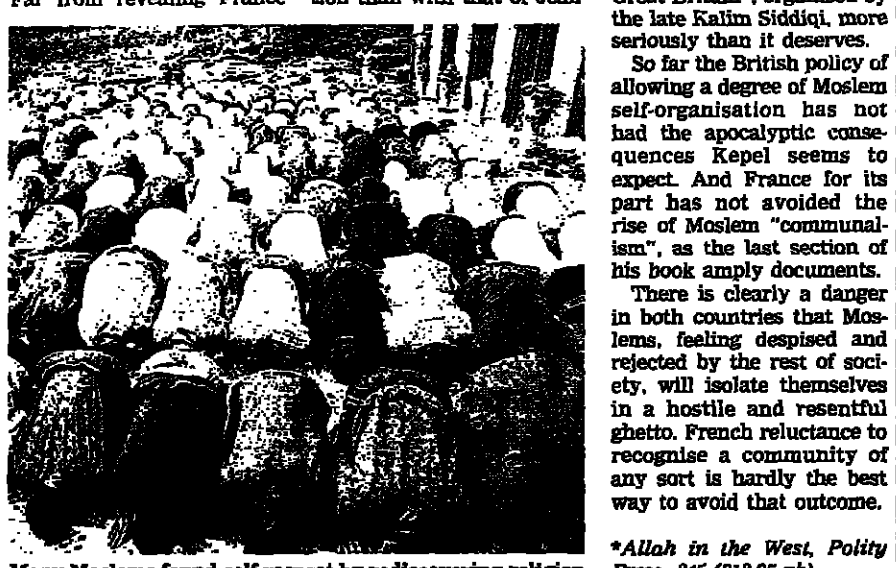
In practice, however, the differences are not so great. The French *Conseil d'Etat*, consulted by the education minister, decided state school pupils had the right "to express and display their religious beliefs within educational establishments, while respecting pluralism and the freedom of others, and without prejudicing teaching activities, the curriculum and the duty of diligence". Subsequent rows have turned on accusations of "proselytising" within the school, or on whether girls can safely keep their veils on for PE lessons.

Such problems are not unknown in British schools. And Britain has so far failed to follow its pluralism to the logical conclusion of allowing "voluntary-aided" Moslem state schools, alongside the Anglican, Roman Catholic, nonconformist and Jewish ones.

Kepel, who researched the British section of his book in 1993, may have been too much influenced by the fall-out from the Rushdie affair. He certainly takes the "Muslim Parliament of Great Britain", organised by the late Kalim Siddiqi, more seriously than it deserves.

So far the British policy of allowing a degree of Moslem self-organisation has not had the apocalyptic consequences Kepel seems to expect. And France for its part has not avoided the rise of Moslem "communalism", as the last section of his book amply documents.

There is clearly a danger in both countries that Moslems, feeling despised and rejected by the rest of society, will isolate themselves in a hostile and resentful ghetto. French reluctance to recognise a community of any sort is hardly the best way to avoid that outcome.



Many Moslems found self-respect by rediscovering religion

**Allah in the West, Polity Press, £45 (£13.95 pb)*

LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL

We are keen to encourage letters from readers around the world. Letters may be faxed to +44 171-873 5938 (please set fax to 'fine'). e.mail: letters.editor@ft.com Published letters are also available on the FT web site, http://www.FT.com Translation may be available for letters written in the main international languages.

Complacency reigns as computers tick towards the turn of the century

From Mr Robin Guenier.

Sir, Your editorial "Year zero crash" (February 26) about computer problems at the 1999/2000 date change states that business seems remarkably complacent. You are right: a survey we published at the Department of Trade and Industry this month indicates that less than 10 per cent of the British economy has completed an audit of the impact of the problem. And an audit is merely the first small step towards a solution.

Unfortunately, you may encourage complacency by confirming some dangerous myths. You suggest that the problem may be exaggerated by computer companies hoping for business. The opposite is the case: many larger companies cannot see how they can satisfy more than a few key clients. You say that personal computers will not be affected. That is wholly untrue: PCs, servers, mid-range systems, indeed any computing system old or new is likely to be affected.

Possibly worse, the problem is present in countless logic chips embedded in a multitude of devices from security and telephone systems to processing and power generation plant.

It is an extraordinarily worrying matter. Business today is dependent on its computing infrastructure. Systems that are not fixed will fail. Many businesses could not survive such failure. There is insufficient time for a total solution and the resources needed to help are inadequate.

You mention experts who claim that only half of the UK's companies will be ready. If they are right, we could be facing the collapse of a significant part of the economy. That is wholly unacceptable. Senior people must take this more seriously.

Robin Guenier,
executive director,
Taskforce 2000,
PO Box 12269,
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UK

From Mr Roderick Jones and Mr Karl Feilder.

Sir, The millennium bug is more real and pervasive than the general media would have us believe.

It is not true to state that the problem principally affects older mainframe systems. It affects all computer systems, except those which are shown to be capable of operating without interruption *both* with respect to references to dates in the next century, *and* during data input, processing and output *in* the next century (and, for good measure, not then subsequently getting historical dates in the 20th century wrong).

Your attention is drawn to the British Standards Institution definition of "Year 2000 conformity". This is a very precise statement of what is required of any computer system for it to operate reliably in the next century.

While some systems vendors have published data as to the extent of the problem affecting various models of hardware or software, no general account is taken of the impact of bespoke software – and that includes spreadsheets and databases written by office staff, where usual practice is to enter the year using only two digits.

Claims by some vendors that their products are "millennium compliant" often fail to point out that that can only be true while the product remains in its box, and may not be true as soon as a user loads old files into the new computer or software package, or continues to input data using old two-digit habits.

This problem affects every business, and much work is being undertaken by dedicated owner/managers, department heads and senior information technology specialists to share information and find solutions, using the Internet as the most efficient means of communication.

It would be in the interests of your readers, whose businesses have not seriously contemplated the millennium problem, to scratch the surface and see what lies beneath, rather that content themselves with the false belief that the problem either does not exist, or will somehow go away.

Roderick Jones,
director,
The TRUSTGroup,
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Karl Feilder,
managing director,
Greenwich Mean Time,
Cosham, Hants, UK

From Dr Chris Pounder.

Sir, Your front-page article ("Law is demanded against systems 'bomb' " February 26) and question posed by the related editorial ("Do countries need a law to force computers to remember the date correctly?") have both overlooked one factor. If information is processed by computer and relates to living individuals, the relevant law already exists: the UK's Data Protection Act 1984.

The "Year 2000" problem could lead to the processing of inaccurate personal data, or even its loss. If individuals suffer consequent damage, they have the right to seek compensation.

In defence against an action relating to accuracy, the organisation concerned would need to prove that it "had taken such care as in all the circumstances was reasonably required to ensure the accuracy of the data at the material time" (Section 22(3) of the Act; Section 23 provides a similar defence relating to loss of the data). This would be difficult to prove if an organisation had not resolved the Year 2000 problem in good time.

Even if damage does not occur, the processing is likely to result in breaches of Data Protection Principles, which the registrar has powers to enforce.

Before the end of 1998, the Data Protection Act will have been replaced by legislation based on European Union Directive 95/46/EC. Since this provides additional protection to data subjects, it will also provide the ingenious with yet more avenues for successful litigation.

Chris Pounder,
Data Protection News,
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From Mr John A. Lewis.

Sir, I note with interest that National Westminster Bank is spending £100m ($163m) correcting the millennium bomb – but that both Lord Alexander and the Department of Trade and Industry declined to support David Atkinson's "Millennium Bomb" bill, deeming it "unnecessary".

Many companies and government departments have similar sized problems to NatWest's – £100m is not an uncommon cost of compliance. Some companies will be unable to get their problems solved, not because they are insoluble or because the money is not available, but because time and resources have run out.

If, as Lord Alexander suggests, the auditors do not start certifying company accounts until 1998 (published in 1999), small investors will get little warning that those companies in which they invest have significant problems that will adversely affect their share price.

Auditors should be required to make statements as of now – 1999 is far too late. In view of their overall responsibility for regulation, what action does the DTI propose to take? If the DTI declined to support the Atkinson Bill it should immediately put forward alternatives.

John A. Lewis,
The Old Poor House,
Walker Lane,
Sutton, Macclesfield
SK11 0HU, UK

From Mr Frank Sutcliffe.

Sir, Your piece on February 26 ("Year zero crash") on adapting computer systems to deal with the 2000 date change failed to mention an important feature of this problem.

Most commentators focus on what are conventionally recognised as computer systems, omitting "embedded processors". The role of embedded systems ranges from sequencing traffic lights to controlling modern manufacturing facilities, chemical plants, offshore oil installations and power stations. Unless embedded systems are addressed, the economy could literally grind to a halt.

Frank Sutcliffe,
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From Mr Alistair O'Reilly.

Sir, The failure of David Atkinson's Private Member's Bill at the third reading in the House of Commons means that computer vendors who cannot cater for the millennium are saved from short-term loss. However, in my view, British businesses which invest in their non-millennium compliant products will make a more significant loss in the longer term to the detriment of British industry, the economy and this country's reputation abroad.

Clearly the government has missed a vital chance to ensure that this country is better prepared for the millennium than many others. I therefore support Mr Atkinson's response that far greater support and resources be made available to Taskforce 2000, the Department of Trade and Industry's millennium awareness initiative.

Alistair O'Reilly,
managing director,
Access Accounting,
The Old School,
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World Bank must tackle corruption menace

From Mr Karl A. Ziegler.

Sir, Your leader ("Wise investment" February 24) begins by observing that the World Bank's new president, James Wolfensohn, spent his first 18 months "searching the organisation's soul". As a shrewd former investment banker, his time might have been better spent in analysing more closely its profit and loss record, as well as its corporate "conscience".

The Bank's many previous restructurings have failed spectacularly and induced higher costs. Rather than downsize 700 jobs and move a few people closer to the front line, we would suggest the initially costlier alternative of laying off far more head-office staff, renting out a large part of its attractive Washington real estate, and hiring 1,000 private sector, disclosure-incentivised, bone-picking auditors. These would be sent to the battle-front, where widespread official corruption has hobbled virtually all the bank's past and Mr Wolfensohn's present best intentions.

The five largest present national clients of the bank are ranked among the 10 most corrupt countries, by Transparency International and similar agencies. To his credit, Mr Wolfensohn is the first bank president to have identified corruption as "a problem" publicly. To put new bank money where *it is* likely to be used most effectively will mean cutting out many "old friends" and dealing exclusively with accountable governments.

Karl A. Ziegler,
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The real nature of shares and ownership

From Mr Roger H. Butterworth.

Sir, John Kay ("Test of possession", February 28) uses the characteristics of ownership of his umbrella to test the nature of a shareholder's ownership over the assets of British Telecommunications.

The business corporation is a 19th century invention, although the concept of a corporation has existed for centuries as a legal body having continuity and a separate existence over and against its members.

A share in BT does not give a direct right over the assets of the corporation. Rather the share encapsulates the relationship between the member and the corporation. The share gives a right to vote (for example, on appointment of directors to manage the business), a right to income, and (on a liquidation) a right to share in the surplus assets. The share is a creature of law. In a less developed society or in circumstances where the state may intervene or where there is a corrupt system of justice, shares either do not exist or may have limited value.

The corporation has other relationships, notably with employees and creditors (including the state, in respect of taxes) and, in the case of BT in a regulated industry, with a regulator.

As a *quid pro quo* of limited liability for shareholders, the law confers protections for creditors to ensure shareholders cannot abuse their position; shareholders are thus expressly prohibited from treating the assets of the corporation as their own.

A modern corporation like BT, with thousands of shareholders, employees and creditors, is indeed a different thing from an umbrella. There is one thing in common, however: the shareholder can realise his investment by sale, as has been happening so much in the electricity industry recently. For the corporation, the share is a source of capital and, for the shareholder, it is a potent investment.

Roger H. Butterworth,
Simmons & Simmons,
21 Wilson Street,
London EC2M 2TX, UK

Way off beam

From Mr Peter Ford.

Sir, There is, of course, an overwhelming argument for sustained investment in London Underground.

However, Mr Rowley (Letters, February 28) spoils his case with ludicrous comments about the present system. Surveys of foreign visitors show they rate our system very highly. Furthermore, far from being "inefficient", we have by far the highest operating margin of any comparable system. We do not claim to be perfect, but Mr Rowley's comments are very wide of the mark.

Peter Ford,
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London SW1H 0BD

ARTS

Television/Christopher Dunkley

New satire, sitcoms and drama

It is only three weeks since the last round-up of new series in this column; yet already there are nine or ten more. If you want to find out what is new, Wednesdays and Thursdays have become the main days to stay in. We shall start with comedies. The best of the lot, and the one that is causing fury among those who have been hoodwinked, is *Brass Eye* on Channel 4 on Wednesdays. This is no situation comedy, but true satire. What Christopher Morris – inventor, presenter and deflator – has done is to use television for the most pointed, wickedly accurate, seathing, and often nearly unbelievable form of television criticism.

You gaze in incredulity as politicians, television presenters film directors and other "celebrities", addicted to the limelight, lay themselves open to ridicule by pontificating upon subjects about which they know nothing. This is inevitable because, in every case, Morris has just invented the subject. Equally important, he parodies the vocal idiocies, the pretentious body language, and the absurd use of graphics, music, and a host of other production details, especially in current affairs programmes. It is almost beyond credence that the real practitioners continue with their farcical sing-song delivery, their ludicrously misplaced emphases, and their idiotic striding-while-talking-to-camera, after Morris has caricatured it all so precisely. Perhaps they simply dare not watch him.

Another Channel 4 series which attempts a satirical approach, *Shop Till You Drop*, is not a success. For a few minutes at the start of the opening programme it appeared to be a real sociological study of shopping. But then, with the "background" music drowning the speech, "academics" describing the fruit and veg area of a supermarket as "a female selection zone", talking about "purchase inter-action analysis", and making batty "feminist" generalisations such as "No wonder men get their shopping so wrong", you realised this must be another attempt at comedy, but one which just does not work.

That is a Thursday series. So is *Third Rock From The Sun* (BBC2), an American production about a team of extra-terrestrials in human form, which has a gag rate as good as, and perhaps better, than *Cheers* and *The Golden Girls*. Last week's scene, in which the snowed-in customers of a diner ended up giving an expert performance of "Oklahoma" in four part harmony, had me falling off the old green sofa. Thursday also brings *Chalk* (BBC1) which looks like an attempt to take the elements of *Fawlty Towers* and apply them to a school. Given the huge success of *Fawlty Towers*, this is neither surprising nor a bad idea, though it is not yet succeeding entirely. At least writer Steven Moffat has contrived some funny situations, as did *Fawlty Towers* and as so many sitcoms do not. But whereas John Cleese's Fawlty character combined sarcasm, hysteria, rudeness, egotism, contempt, ambition, bullying and toadyism to create an entirely authentic human monster, the deputy headmaster in *Chalk* samples a similar succession of characteristics like a man madly trying on jackets in a shop. So far it seems more panic stricken than funny.

Yet another new Thursday comedy, *A Perfect State*, also on BBC1, is a latterday *Passport To Pimlico* in which an English town declares UDI. It could prove funny, though the unrealistic right-on idea of having a black West Indian as mayor of the little seaside resort looks ominous. The best comedy emerges from realism and honesty, often uncomfortable honesty. This becomes very clear in the BBC2 series *Surely Some Mistake* (also Thursday) which, although not made as a comedy, is very funny. The opening programme investigated the failure of Lymeswold cheese, an entirely modern product all wrapped up in olde worlde marketing flim-flam; the outrage following publication of an article by Alice Thomas Ellis in the Catholic Herald; and, funniest of the lot, a description by Bryan Ellis, managing director of Hasbro Toys, of how the idea of tortoises with the names of famous artists, living in a sewer on pizza, seemed so potty that he rejected an offer to manufacture Teenage Mutant Ninja Turtles – which, of course, went on to become the biggest toy craze of all time.

Of the new drama serials, ITV's *Reckless* (Thursdays) seemed at first as though it might have something more to offer than the electronic version of women's magazine fiction which is now ITV's standard form of nine o'clock drama. But, despite an impressive cast which includes Francesca Annis, Michael Kitchen and David Bradley, it turns out to be the same old "Woman's Own" stuff about the rugged young doctor and the suave older woman. *Turning World* on Channel 4 on Sundays also has a hospital setting, this time a psychiatric hospital, and a predominantly Asian cast, which makes a change.

BBC1's new Saturday series, *Crime Traveller*, takes the time-travel element of *Quantum Leap*, sits it on top of the police hit-squad led by a ballsy, brow-beating woman and creates yet another serving of forgettable British whimsy. Whatever happened to the British ability to make fantasy series with the power, chutzpah and humour of *The Avengers* (1961) and *Doctor Who* (1963)? The best of the new drama batch is *Insiders*, a series by Lucy Gannon who gave us *Soldier Soldier* and *Peak Practice*. Though the new series is on the hackneyed subject of prisoners and warders they prove more productive than the soldiers or the doctors. At any rate, Gannon's delineation of character and motivation both seem more subtle and intricate this time.

The best new series of the lot, however, is BBC2's *Walden On* ... (Mondays). It could hardly be simpler or more effective: Brian Walden stands facing the camera and speaks – without autocue, judging from the absence of eye movement – for 30 minutes on one of the leaders of the Labour Party. Beginning with Gaitskell, he proved as adept as A.J.P. Taylor, the last person I can recall who was able to do this. It showed, as though we needed showing, that nothing on television is more engrossing than the talking head, provided that head is as well stocked as Walden's.

Opera/Andrew Clark

'Orpheus' much misunderstood

It is easy for us to forget how revolutionary *Orpheus and Eurydice* was in its day – especially when we are confronted by the kind of arty-farty production unveiled by English National Opera at the Coliseum on Monday. Gluck's *azione teatrale*, first performed in Vienna in 1762 with a castrato Orpheus, was much shorter than convention dictated; it involved fewer roles, a near-eradication of vocal ornament, an innovative use of chorus and an integration of dance into the dramatic scheme. Above all, it was concise and direct.

What we usually hear today is either the expanded and softened *tragédie lyrique* Gluck created for Paris in 1774, with a high tenor; or the re-ordered Berlioz edition of 1859, for contralto; or a bastard version of the two. So it is right that, in this age of going back to sources, ENO should use Gluck's pure, short original (barely 75 minutes' worth) – even if it means cutting the many beautiful additions we have come to regard as integral to the score.

I cannot say, however, that Monday's performance struck me as bold, fresh or uncluttered. There was nothing objectionable about Jane Glover's conducting: it was faithful, fluent, clearly structured. The Dance of the Blessed Spirits showed a particularly fine elevation of line and texture. Nevertheless, taken as a whole, it was a soft-focus reading, lacking the bite and dramatic urgency to make us sit up and listen with new ears.

On stage, there seemed to be two performances going on – one for the singers, who were left largely to their own devices (with the chorus miserably consigned to proscenium boxes), and another for an eight-person movement group. The latter was the sole object of interest for the American choreographer/director Martha Clarke. Instead of integrated dances, Clarke offered a series of set-piece illustrative mimes, which added nothing to our understanding of the opera, but told us a lot about the phoney "meaningfulness" of a certain type of modern choreography.

Her ideas were not all misplaced: the simulated brutality of the Furies, for example, underlined the extraordinary violence of the music. What grated was the absence of any dramatic logic or development. The Elysian Fields resembled a naturist beauty contest – a calm but monotonous parade of bare bodies apparently oblivious to one another. The finale was an equally repetitive sequence of playground antics. All this represented not just a missed opportunity, but a betrayal of the depth and nobility of feeling at the heart of this opera. Such is the reward for allowing the staging's rationale to be imported from New York (in a co-production with City Opera). Given the stone-age quality of John Conklin's decor, ENO could surely have devised a cheaper, more dedicated approach of its own.

It is ironic that the sole redeeming quality should be an ENO stalwart – Lesley Garrett, whose tenderly imploring Eurydice alone matched the ideals Gluck set his interpreters. She seized on every phrase of Anne Ridler's fine new translation with keen intelligence and expression. She "spoke" the emotions through the music, marrying word and line in a way that sharpened the accents without tipping into melodrama. And she acted like the intensely physical wife Eurydice is surely supposed to be.

Michael Chance's countertenor Orpheus needed stronger direction: he cut an insipid, wimpish figure, wandering the stage like a city slicker who has lost his bonus. There were flickers of passion, but the famous Act 3 aria was far from convincing. Helen Williams, in a kitschy pair of wings, was the sprightly Amor.

Sponsored by Friends of ENO.

Michael Chance and Lesley Garrett in the ENO co-production with New York City Opera Alastair Muir

Theatre/Alastair Macaulay

Time for the crimplene frock

Marie Jones's new-ish play, *Women on the Verge of HRT*, has feistiness, honesty, charm and surprise among its several merits. Among its flaws are that it is – in more ways than one – deeply provincial; that it tends to get stuck in one groove after another; and that, beneath its tough feel-your-anger surface, it has merely a soft feelgood core.

Its arrival in the West End from Northern Ireland (where it had its premiere in 1995) is refreshing. I only wish, writing immediately after its opening on Monday night, that I could recommend it.

Vera and Annie are Belfast women who are beginning "the change" and have come, together, to Donegal as fans of the singer Daniel O'Donnell. Is it time for them "to put on the crimplene frock?"

Vera, we learn at once, is still raging at the break-up of her marriage and at her ex-husband Dessie's remarriage to a woman 25 years younger. Annie is the more rapt in her delight in Daniel's singing. Only gradually do we discover that her marriage to Martie has long been devoid of sex, conversation or love.

Act One takes place in their hotel bedroom the evening after Daniel's concert. In another room nearby, several older women – some with disability cards – are raving the night away in Daniel-touched euphoria. Vera, however, is more or less desperate not to be consigned to the waste heap of such post-menopausal crones: *they* are only happy, she says, because they know everything for them is over. (Annie: "Sex isn't everything." Vera: "Oh, yes, it is. Don't let anyone tell you different.")

She chats up the room-service waiter, Fergal, with whom magic starts to enter the play. Act Two is set on the beach of Donegal bay, just before dawn the next day. Magic here consists in the raging cries offstage of the Banshee and in the powers Fergal reveals to Vera and Annie to summon up the people on their minds and interview them. By the end of the play, Annie is as angry and rebellious as Vera has been all along.

Women on the Verge of HRT is patchy and Marie Jones has drawn its teeth by making it a comedy with songs. This, not its Irishness, is what makes it feel so provincial and soft-centred. That Fergal – like some Dennis Potter character – breaks into Irish Daniel-type songs is not much of a problem. He is, in his prosaic way, magical anyway. However, first Vera and then Annie have to have their folk-style songs too, and the play ends with a duet for them. Menopausal defiance, when given ballad treatment, turns into marshmallow.

The play, especially as directed by Pam Brighton, also wastes too much time presenting both women like sit-com characters.

Vera, moreover, really is the bore that Annie soon accuses her of being. She is monotonous not only in her self-obsessed anger but also in her stubborn heels-first walk, her repeated, tight gestures of exasperation and her notion that sexual love is a natural right. Nor does the performance of author Jones in the role, slightly small-scale and very tensely paced, help matters, for all her attack.

Eileen Pollock, whose only problem is that her singing is weak, gives a quietly rounded account of Anna: now funny, now touching. As Fergal, Dessie Gallagher (replacing Phelim Drew) wins the audience with his unexpected, po-faced, full-out breakthroughs into song or into the several characters whom Vera and Annie summon up at dawn.

Weekend concerts/Stephen Pettitt

Heart-wrenching Bruckner

Andrew Porter's valedictory column for the Observer on Sunday dared to air a bold, unfashionable thought: that the best British orchestras are nonpareil. The now regular visits of the Vienna Philharmonic Orchestra to the Royal Festival Hall have helped us towards an increasingly widespread recognition of this. At the weekend, I listened to the City of Birmingham Symphony Orchestra (for my own pleasure), to the VPO, and to the Philharmonia Orchestra. Different orchestras, under different conductors, with different characteristics. But one could not say that any one of them was better or worse than any of the others.

Not that the Vienna Phil is anything other than a wonderful band. The opening of the final, slow movement of Bruckner's Ninth Symphony, a heart-wrenching rising minor ninth can rarely have wrenched hearts with quite as intense a violin tone as it did in the VPO's performance under Daniel Barenboim on Saturday. The brass section has a lovely ripe sheen to its sound. Only the principal oboe continues to rankle. He often makes a weedy, wailing noise low in the register.

But for all its self-confidence the VPO is as liable to fall prey to the demands of the moment as any other orchestra, and the horns had a particularly tough time here, with many an entry in both the Bruckner and in Mozart's Symphony No 29 which preceded it marred by split notes.

But Bruckner's mighty, incomplete leave-taking of the symphony still made a massively moving impact. Barenboim knows as well as anyone when to allow Bruckner's music to work its own mysteries and when to intervene. The closing Adagio charted a beautifully shaped path from the tragedy of mortality to the triumph of paradisical glory; the Scherzo had real fury. And the first moment built to an impressive climax of terrible, elemental power. Complacency, that old enemy of the VPO, had no place in Barenboim's reading.

Christoph von Dohnányi, principal conductor elect of the Philharmonia Orchestra, gave a marvellous concert the following evening with his new charges. He may not be the most full-bloodedly extrovert conductor around, but he compels you to listen to every sonority. Schubert's Ninth Symphony was as beautifully blended as it was paced, helped by doubled woodwind forces and a euphonious array of double basses placed, unusually (but not for Dohnányi), behind the first violins.

Earlier, Mozart's dark C minor Piano Concerto, K491, had been delivered by Murray Perahia with his customary quietly beguiling musicianship, every note coloured with subtlety, while Webern's Passacaglia, Op 1, providing a short night's work for the many extra players it demanded, was a far more arresting and gratifying start to proceedings than the usual run-of-the-mill classical overture.

INTERNATIONAL ARTS GUIDE

■ AMSTERDAM

EXHIBITION
Tropenmuseum Tel: 31-20-5688215
● Irian Jaya: exhibition of photographs and objects from the museum's collection focusing on the changes and developments in Irian Jaya, (which forms the western part of New Guinea), since the first encounters in 1903 between the Dutch and Papua tribes living there; to Oct 19

■ ANTWERP

EXHIBITION
deSingel Tel: 32-3-2483800
● Christian Kieckens: exhibition examining the work of Belgian architect and furniture designer Kieckens, focusing on his working methods and attempts to control the balance of function and form; to Mar 16

■ BERLIN

CONCERT
Konzerthaus Berlin Tel: 49-30-203090
● Cvetana Ivanova: the pianist and harpsichordist performs works by Klein, Yossifov and Xenakis. Part of the 16th Musik-Biennale Berlin; Mar 9
● Orchester der Komischen Oper Berlin: with conductor Yakov Kreizberg and tenor Jörg Hering perform works by Brahms, Mozart, R. Strauss, Beethoven and Wagner; Mar 6
Philharmonie Berlin - Grosser Saal & Kammermusiksaal Tel: 49-30-2614383
● Berliner Brahms Trio: perform works by Schubert and Brahms; Mar 8

■ COPENHAGEN

EXHIBITION
Det Danske Kunstindustrimuseet - The Danish Museum of Decorative Art Tel: 45-33149452
● Ross Lovegrove Design: exhibition of plastic furniture design by the Welsh industrial designer who combines organic shapes and new technology to produce a range of goods, including leatherware, chairs, cameras and lamps; to Apr 13

■ EDINBURGH

EXHIBITION
Scottish National Portrait Gallery Tel: 44-131-5568921
● Owen Logan: exhibition of photographs taken in Nigeria that question the nature of post-colonial society in the region. Logan's work has always concerned itself with cultural identity, concentrating in the past on minority cultures in Britain; from Mar 6 to Jun 1

■ HELSINKI

EXHIBITION
The Finnish National Gallery - The Museum of Foreign Art, Sinebrychoff Tel: 358-9-17336360
● The Tiger's Gaze - Traditional Korean Painting: exhibition examining the arts of Korea from the 18th century to the present day. Included in the display are landscape panoramas made up of paper scrolls; to May 5

OPERA
Opera House Tel: 358-9-403021
● La Sylphide: by Schneitzhoeffer, reconstructed and restaged by Lacotte. Conducted by Michel Quéval, performed by the Finnish National Opera; Mar 6

■ LIVERPOOL

EXHIBITION
Tate Gallery Liverpool Tel: 44-151-7093223
● Paula Rego: a retrospective of the work of the British painter Paula Rego, including more than 80 paintings and, on public view for the first time, early sketches and preparatory drawings. The exhibition, prepared in collaboration with the artist, best known for her large narrative paintings, shows a range of work from 1959 to 1995; to Apr 13

■ LONDON

CONCERT
Barbican Hall Tel: 44-171-6384141
● Amsterdam Baroque Orchestra: with conductor Ton Koopman, soprano Ruth Ziesak, alto Bogna Bartosz and tenor Paul Agnew perform works by Bach; Mar 9
Royal Festival Hall Tel: 44-171-9604242
● Ernest Read Symphony Orchestra: with conductor Michael Smedley and cellist Guy Johnston perform works by Mozart, Lalo, Tchaikovsky and Lutoslawski; Mar 8
Wigmore Hall Tel: 44-171-9352141
● Florestan Trio: perform works by Brahms and Fauré; Mar 7, 8, 9

EXHIBITION
The Royal Festival Hall Main Foyer Tel: 44-171-9604242
● Yoko Ono and Fluxus: the first exhibition to document Ono's work alongside that of the Fluxus movment. On display are installation pieces, film, photography and sculptures. Fluxus founders represented include Name June Paik, Kate Millet, La Monte Young and Alison Knowles; to Mar 23

■ LYON

DANCE
Opéra National de Lyon Tel: 33-72 00 45 00
● Ballet de l'Opéra National de Lyon: perform 'Green and Blue' to music by Mozart, choreographed by Bill Jones, 'Petite Mort' to music by Mozart, choreographed by Jiri Kylian and 'Miss K' to music by Mozart, choreographed by Hervé Robbe; Mar 8, 9

■ MUNICH

EXHIBITION
Villa Stuck Tel: 49-89-4555510
● Rainer Maria Rilke und die bildende Kunst: exhibition focusing on the German poet Rainer Maria Rilke and his relationship with the visual arts. Rilke took his main influences from 19th and 20th century paintings, sculptures, drawings and theatre and he wrote several essays on art and artists. The exhibition includes works by Böcklin, Cézanne, Degas, Picasso, van Gogh, Modersohn-Becker, Klee and Rodin; to Apr 6

■ NEW YORK

EXHIBITION
Brooklyn Museum Tel: 1-718-638-5000
● 'A Different Reality: Symbolist Prints From the Collection: exhibition featuring more than 80 works on paper from the late 19th and early 20th centuries. Different aspects of Symbolism are represented by artists Gauguin, Vuillard, Redon, Whistler, Munch and Beardsley; to May 4

■ PARIS

CONCERT
Cité de la Musique Tel: 33-1 44 84 45 00
● Huelgas Ensemble: with conductor Paul van Nevel perform works by Gombert, Manchicourt and Brumel; Mar 8, 9

EXHIBITION
Musée d'Art Moderne de la Ville de Paris Tel: 33-1 53 67 40 00
● Jean-Michel Alberola: retrospective of work by the French artist inspired by contemporary political events. On display are sculptures, photographs, posters and installations; to Mar 23

OPERA
Théâtre des Champs-Elysées Tel: 33-1 49 52 50 50
● Ombra Felice: by Mozart. Conducted by Louis Langrée, performed by the Orchestre de Picardie. Soloists include Cyndia Sieden, Elzbieta Szmytka, Veronica Canjemi and Nathalie Stutzmann; Mar 8

■ VIENNA

EXHIBITION
Kunsthistorisches Museum Tel: 43-1-52524
● Vittoria Colonna - Michelangelo's Muse: exhibition tracing the life and times of the Renaissance poet Colonna who included in her circle the poets Castiglione and Giovio, theologians Contarini and Flaminio and the artists Bronzino and Moroni. Michelangelo was another famous admirer, dedicating drawings, sonnets and letters to her and there are a number of these on display; to May 25

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